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Family Transition and Children's Health and Well-Being: Economic Resources versus Family Processes

by

Maria Teresa Abada ©

A thesis submitted to the Faculty of Graduate Studies and Research in
partial fulfillment of the requirements for the degree of
Doctor of Philosophy

in

Demography

Department of Sociology

Edmonton, Alberta

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September 19, 2003

University of Alberta

Faculty of Graduate Studies and Research

The undersigned certify that they have read, and recommend to the Faculty of Graduate Studies and Research for acceptance, a thesis entitled Family Transition and Children's Health and Well-Being: Economic Resources versus Family Processes submitted by Teresa S. J. Abada in partial fulfillment of the requirements for the degree of Doctor of Philosophy in Demography.

Susan McDaniel (co-supervisor)

Michael Gillespie (co-supervisor)

Wayne McVey

Deanna Williamson

Zheng Wu
(University of Victoria)

Date: September 2, 2003

For My Mother

Abstract

One of the fundamental questions asked regarding family transition is whether it is harmful to children's health. It is important to recognize that children's lives are not static and that at some point in their lives they will encounter major changes, whether it involves change from two-parent to a single-parent household, or change from a single-parent to a two-parent household.

This thesis examines the impact of family transition on children's outcomes such as emotional disorder, physical aggression, risk of injuries and destructive behaviour. It utilizes data from the National Longitudinal Survey of Children and Youth from 1994 to 1999. Drawing from theoretical perspectives such as life course theory, social capital theory and Bronfenbrenner's ecological theory, this thesis argues for the importance of *process* rather than structure as explanations to children's development. It considers the roles of economic and family processes serve to explain the detrimental effects felt by children as they undergo family change.

The analysis is set in two stages: The first stage as shown in Chapter 5 employs logistic regression and ordinary least squares regression in determining the extent to which family processes and economic resources explain the family structure differences in children's behaviours. This analysis addresses the temporal order of events by focussing on two waves of data at a time. The next stage demonstrated in Chapters 6 and 7 moves into a more dynamic analysis by examining all the variables of interest for all three waves of data (1994/1995, 1996/1997 and 1998/1999) and discerning its relationships simultaneously. This is executed with structural equation modeling. This analysis addresses the issue of whether change is more detrimental if transition occurs

from two-parents to one-parent versus one-parent to two-parent families. We also address a widely neglected component of family change – how children's and parents' health characteristics influence each other and how they in turn contribute to family transition.

The findings from the study challenge the generally weak association found between income and children's well-being from previous studies. It calls attention for a process explanation in guiding our understanding of how family transition affects children's health and well-being.

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Family Transition and Children's Health and Well-Being: Economic Resources versus Family Processes

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Chapter 1
Introduction

1.1 Statement of the Problem

Canadian family life has never been static. Perhaps at no time more so than in the last 30 years, have Canadian families undergone transitions that dramatically altered its composition. Social scientists have observed that Canadian children are much more likely to experience the disruption of their parents' marriage and to live with a single parent than children in the 1960s. Homogeneous family structures began to change in the 1970s with the rise in divorce rates and the introduction of common-law unions. The new flexibility of contemporary conjugal relationships often result in family instability for their own children, as they experience diverse family environments before they reach adulthood (Marcil-Gratton, 1998). Although the determinants of family changes have been extensively studied, the impact of various family structures on the development and well being of children remains an unexplored dimension and much of the literature has focussed mainly on the negative outcomes associated with single parenthood.

The implementation of the 1968 divorce legislation contributed to the notable rise in marital dissolutions from 195.4 per 100,000 population in 1971 to its current level of 356.6 per 100,000 population (McVey and Kalbach, 1995). The liberalization of divorce laws was part of a much larger social change in which the marriage institution no longer had the force as it did in the past. Marriage and divorce became individualistic decisions, freed from forms of normative constraints. The 1995 General Social Survey reveals that a slowdown in marital dissolutions is unlikely to happen in the future. In fact, more children are expected to experience their parents' marital breakup and will do so at ever younger ages (Marcil-Gratton, 1998).

Another contributing factor to the present rate of change in family structure is pertains to the rise in common-law unions, which has resulted in the significant increases in the number of children born outside legal marriages. Marcil-Gratton, Le Bourdais and Lapierrre-Adamcyk's (2000) analyses of the Family History Survey, the General Social Survey and the Canadian National Longitudinal Survey of Children and Youth demonstrate the increasing popularity of cohabitation as a formidable union to raise a family. They show that in the early 1960s, over 90 percent of all children were born to married parents without previously cohabiting. By the 1970s and the 1908s, less than 40 percent of children born in the early 1990s were under traditional marriages. The choice of cohabitation over marriage as a context for which children are born has consequences on the survival of families.

According to Marcil-Gratton et al. (2000), parents who cohabit before marrying have a greater propensity to separate than parents who married without previously cohabiting, but are less likely to breakup than couples who remain in the common-law union. Further analyses also show that more children at younger ages will experience living in a single parent household. In comparison to the 1983-84 cohort, the number of children in the 1987-88 cohort who lived with a single parent by their sixth birthday increased by 22 percent. For those born in 1991-92, there was a 56% increase in those who lived in a lone-parent home by the age of 2. (Marcil-Gratton, 1998). Given that more children are born outside legal marriages, the risk of parental separation and the potential for experiencing numerous family transitions are indeed very high.

One of the fundamental questions asked regarding family change is whether it is harmful for children. The increase in family instability and lone parenthood has sparked considerable debate among policymakers and the public more generally. Part of this concern stems from the reality that children in lone-parent families, particularly those who live in female-headed households, have high poverty rates. It follows that children who grow up in low-income households also tend to have lower levels of educational attainment and lower levels of health and well-being. And though family's financial resources are clearly linked to children's developmental outcomes, the various ways in which this influence is transmitted is not firmly established. Yet, past studies have only found a weak association between income and children's well-being (Willms, 2002; Beiser, Fou, Kasper and Nou, 2002), suggesting that income is not a critical factor in child development. This appears contradictory to the well-established notion that people's health status are related to socioeconomic factors such as income, level of education and occupational prestige (Hertzman, 1999; Wilkinson, 1992).

The causal mechanisms and the multiple pathways by which economic resources impact on children's lives need to be addressed in order to have a better understanding of how income truly impact on children's lives. This can only be achieved by looking at the long-term trajectory of children's development and how they relate to major life transitions such as parental divorce, and remarriage, and changes in parenting styles, family conflict, and parental health status. More importantly, there exists a gap in our understanding of the impact of the type of change on children's lives. For example, is change from two-parent to a one-parent household versus change from a one-parent to a two-parent household more beneficial or detrimental to children's health? Does one type of change affect the mediating processes such as parental depression more adversely and how does it ultimately influence children's health?

It can no longer be assumed that children will spend their entire childhood with both biological parents and their biological siblings. To do so would mean failure on our understanding of the diverse contexts in which Canadian children are growing up. If family changes cannot be prevented, then it is imperative that we understand the experiences of families undergoing transitions and determine the reasons why some children are more prone to adverse health outcomes while others are more adaptive to family change. Equally important is the need to understand how children adapt to different transitions over time.

1.2 Objectives of the thesis

The central objectives of the thesis are:

1) To examine the effects of family structure and economic resources on several aspects of children's health and well-being – including emotional disorder, physical aggression, injuries and destructive behaviour.[1]

2) To investigate the extent to which the mediating processes, parental health status, parenting practices, and family functioning account for differences in children's well-being.

3) To examine the impact of family change, specifically from two-parents to one-parent household, and the change from one-parent to two-parent household on children's health over time. This compares the causal mechanisms by which family transition affects two-parents and single-parent families over the three time periods 1994 to 1995, 1996 to 1997 and 1998 to 1999.

This thesis then explains family transition and its impact on children's health outcomes over these specified time periods. This is done in the following stages:

1.3 Organization of the Thesis

This thesis is organized into eight chapters including this introductory chapter (Chapter 1). Chapter 2 provides a comprehensive review of the context of family diversity and children's outcomes. It discusses a number of domains that are considered to be paramount in influencing children's lives. These include the influence of economic resources and family processes. Chapter 3 presents the theoretical frameworks for understanding family diversity and children's health and well-being. It considers perspectives from different disciplines such as sociology, economics and developmental psychology. It will be demonstrated that each perspective's theory, methodology and interpretations reveal similarities and parallels in explaining the impact of family transition on children's lives. A conceptual framework for understanding family transition and children's health outcomes is developed in the same chapter, followed by a set of hypotheses to be tested in Chapter 5. Chapter 4 contains the description of the data source and the variables of interest. An overview of The Canadian National Longitudinal Survey of Children and Youth with its longitudinal characteristics is provided in this chapter. The next two chapters present the analysis, which is set in two stages. The first stage is presented in Chapter 5. The logistic regression and ordinary least squares regression results reveal the extent to which parental depression, family functioning, hostile ineffective parenting and economic resources explain the family structure and change differences in children's behaviour. This will determine the degree to which structure versus process impact children's lives. This type of analysis will address the temporal order of events by accounting for the explanatory variables at one specified period and its impact on children' outcomes at the subsequent wave of the study. The analysis will focus on two waves of data at a time. The purpose is to provide a general picture of how Canadian children fare in a wide variety of psychological and physical health outcomes given their family structure status.

The next stage moves into a more dynamic analysis of family transition and children's health and well-being to be presented in Chapters 6 and 7. The theoretical framework is extended such that all three cycles of data are accounted for in the same analysis. This involves examining all the variables of interest at all three waves (1994/1995, 1996/1997 and 1998/1999) and discerning its relationships simultaneously. This is executed with structural equation modeling. The analysis uncovers the processes by which family transition affects changes in household income and changes in parents' and children's health at the same time and comparing the degree to which change between waves two and three affects these two types of family structures. In this analysis, we address the issue of whether change is more detrimental if transition occurs from two-parents to one-parent versus one-parent to two-parents. We also address a widely neglected component of family change – how children's and parent's characteristics influence each other and how they in turn contribute to family transition. Chapter 7 replicates the same structural equation modeling from Chapter 6 but to individuals who experienced change between 1994 to 1996 and who are therefore at risk for another family transition from 1996 to 1998. Chapter 8 provides a summary of the major findings of the study, policy implications and suggestions for future research. It addresses a number of important issues pertaining to children who are at risk for vulnerable outcomes. It re-considers the role of income and multiple pathways by which it affects children's and parents' lives. It calls attention for a process explanation in guiding our understanding of how family transition affects children's health and well-being.

Chapter 2
Literature Review

2.1 Does Family Structure Matter?

One of the pervasive questions that surround family change is whether it is detrimental for children's health. Family structure provides information on the social environment in which children live - whether their parents have previously cohabited, whether their parents have never married, previously married or whether they live in a stepparent household. The traditional and more conservative approach to children's well-being emphasizes that family composition and biological parents as role models are essential for their normal development (Popenoe, 1996; Popenoe, 1993). The role of the family is regarded as primary in providing role differentiation and a healthy environment for children to be born and be socialized. The conservative view posits that nuclear families provide the necessary backdrop in which children's personalities are formed. Accordingly, deviations from the nuclear family are foreseen as problematic for children's outcomes. The family composition hypothesis strongly supports the view that children reared in two-parent households exhibit higher levels of well-being than children in single-parent households. It follows that children in divorced families, stepfamilies and continuously single-parent families experience negative developmental outcomes (Popenoe, 1994; Acock and Demo, 1994).

The question of whether deviations from the original biological two-parent household indeed harms children requires a comparison that goes beyond simply contrasting family environments. This entails comparing the magnitude of these differences between children from different family structures. Equally important is to account for the passage of time with these differences. This involves examining whether children of divorced families exhibit fewer problems after several years have elapsed from the time of transition. The importance of the family composition hypothesis inspired a number of extensive studies on a wide variety of children's outcomes including social and emotional behaviour (Dunn et al. 1998; Demo and Acock, 1996; Thomson et al. 1994; Cherlin and Furstenberg 1991; Cockett and Tripp, 1984; Ferri, 1984; Najman et al. 1987), aggressive and anti-social behaviour (Rodgers, 1994; Amato and Keith 1991; Ferri, 1984; Thomson et al. 1994; Zill et al. 1988), educational outcomes (Tucker et al. 1997; Zubrick et al. 1997; McLanahan and Sandefour, 1994; Amato and Booth, 1991;Wadsworth and Mclean, 1986, Svanum and Bringle, 1982) and physical health and development (Rodgers, 1994; Dawson, 1991). Rodgers and Pryor (2001) provide a meta-analysis, by providing a detailed categorization of effect sizes. With respect to social and emotional behaviours, children from single-parent families exhibit greater percentages of poor outcomes (including distress, sociability, internalizing problems) than children from intact families; the most common pattern is that they range around 13.4% to 16.9% versus 10% of children from intact families who demonstrate poor outcomes. According to Pryor and Rodgers (2001) the greatest difference in these outcomes, (where children from single-parent families demonstrate poor outcomes that are 25-45% higher than children from two-parent families) is that of the Cockett and Tripp's (1994) Exeter Family Study in the United Kingdom. This study however cannot be considered definitive due to its relatively small sample size. The magnitude of the differences in the findings for aggressive behaviour was also modest, with children from separated families showing these behaviours that are around 7-8% higher than children from two-parent families. A common pattern, not surprisingly is that males have a greater propensity for aggression and antisocial behaviour than females.

The larger differences between children from separated families and those from intact families are demonstrated in educational outcomes. Children from two-parent families are far more advantaged than children from single-parent families especially with outcomes pertaining to years remaining in school, full-time education, or final academic achievement (McLanahan and Sandefour, 1994; Amato and Booth, 1991; O'Connor et al. 1999). The findings, for example, from McLanahan and Sandefour (1994) show that 16 percent of children from separated families were more likely to drop out of high school, in comparison to only 9 percent of children from intact families. However direct assessments of educational abilities (such as reading and math scores) demonstrate more modest effects. As Kiernan (1997) demonstrate, a range of 13.4% to 16.9% of children from separated families exhibited poor outcomes in reading scores in comparison to 10% of children from two-parent families. It should be noted that educational outcomes such as school completion and achievement of higher education may reflect more the socioeconomic circumstances of the family structure. Correspondingly, this may place greater structural constraints for single-parent families for realizing their educational potential.

Physical health outcomes are not examined extensively as the psychological health outcomes. Physical health can vary from injuries, asthma attacks and bedwetting, to the use of health services in early childhood. The differences in physical health outcomes between children from separated families versus children from intact families is smaller than the observed differences in emotional and social outcomes. For example, Amato and Keith's (1991) study show that children from separated families were 17.5% more likely to have suffered from accidental injuries compared to 13.4% of children from intact families. Moreover, the percentage of children with asthma conditions was only 3.9% for two-parent families and 5.6% for single-parent families.

It is evident that children who do not live with both biological parents are at substantial risk of negative health and academic outcomes. These findings are consistent with the notion that children are severely affected by the emotional trauma and stress associated with marital dissolution and by the relative lack of parental support, and supervision provided by single parents. However, the question of whether family structure matters for children's health outcomes is only partially answered. We cannot consider all of these studies as definitive because of the cross-sectional nature of these investigations. The emotional trauma associated with separation, divorce and remarriage tend to diminish over time (Wallerstein and Kelly, 1980). It is also possible that the adverse health risks of different family structures were the cause rather than the outcome of marital dissolution. Cross-sectional studies focus exclusively on the transition that occurs after separation and have collected information only after the event of separation, discounting the events that lead to separation and divorce. An alternative approach to studying family change is to track the developmental progress of children longitudinally. This allow one to examine issues of whether differences between children from intact families and those who experienced change are the result of the event itself or whether they were present before the transition occurred.

2.2 Children's Health and Well-Being Before and After Family Change

Longitudinal Studies such as the 1958 British Birth Cohort study and the US National Survey of Children have studied large representative samples of children and collected information on a wide variety of children's outcomes at several stages. This allows comparison to be made between children before and after family change. These studies show that the adverse effects associated with marital dissolution are quite apparent before the physical separation. This echoes findings similar in a smaller longitudinal study in Berkely, California (Block et al. 1986). Cherlin et al. (1991) examined national longitudinal surveys from Great Britain and the United States in investigating the effects of divorce on children. They provide three sources that may account for the observed differences between children whose parents separated or divorced and children from two-parent families: 1) The effect of growing up in a dysfunctional household – parents with psychological problems are also at risk of divorce and cannot provide a healthy environment for the normal development of their children. 2) Marital conflict also has dire consequences for children's outcomes and is often followed by divorce. 3) The difficult transition that follows separation – the emotional trauma, reduction in income, diminished parenting, and postdisruption conflict – all of which contribute to the difficulty of normal child development. The findings for Great Britain and the United States reveal that much of the effects of separation or divorce on behavioural problems and academic achievement were predicted by family conflict that were present before any of the disruption occurred. These effects were also found to be stronger for boys than for girls. Their analyses however were restricted to children who were aged 7 at the first time point and who were 11 at the second time point. It may be possible that the impact of divorce may vary for younger or older children in their sample. Nevertheless, both the British and US findings suggest that attention must be directed to the processes that occur in troubled, high conflict intact families when ascertaining the adverse health risks that children face after their parents separate.

The issue of whether the detrimental effects felt by children following family change would be reduced with the passage of time is not quite firmly established. The Child Supplement of the US National Longitudinal Survey of Youth found no observed differences in behaviour problems among girls who remained in two-parent families and those who experienced change over a two-year period (Morrison, 1999). The difference however was observed in aggressive behaviour among boys. However, it cannot be determined whether these differences are based on the impact of the recent event, or whether these behavioural patterns would persist over time. Mott et al. (1997), in a follow up study, found that the greatest magnitude in detrimental effects were found in situations were the father has recently left the family household. On another study of behavioural problems, Shaw et al. (1993) found no differences between children raised by continuously married parents and those currently experiencing family separation. The differences however, were noted in patterns of parenting and family conflict. It is possible that children who are in the midst of family transitions such as divorce will experience changes in their parents' interactions towards them, greater family tensions, and may develop these difficulty in adjustments before the separation occurs (Rogers and Pryor, 2001).

The importance therefore, of how family change affect family processes is paramount in understanding changes in children's health outcomes. Research focusing solely on family structure ignores the possibility that family relationships (and other social processes) may vary for children across different social environments and these differences may be more important that family structure in accounting for differences in children's outcomes (Acock and Demo, 1994). The development of children occurs in the context of different family environments and the processes by which different family structures influence children's health outcomes. To understand fully children's experience of family change requires an investigation of the factors that influence their social psychological and physical environment.

2.3 Factors Influencing Children's Health and Well-Being

2.3.1 What is the Influence of Income?

The relationship between family structure and income is part of a much larger debate of whether parental absence itself reduces children's well-being or whether it is just a proxy for economic hardship. If economic hardship was the cause of marital dissolution, then one can conclude that family structure is not paramount in determining children's outcomes. Indeed, financial hardship can contribute to further family tensions and disagreements between spouses, thus increasing the risk of marital dissolution. Studies in the United States and Great Britain have demonstrated the lack in economic resources as contributors to divorce (O'Connor et al. 1999; Kitson et al. 1985). This underscores the importance of examining the time ordering of events – whether economic deprivation also contribute to family transition. Instead of perceiving economic resources as a *consequence* of family change, it is equally important to investigate its *direct causes* on children's health as well as its effects on the intervening mechanisms on children's development.

On the other hand, if family disruption pushed the family's circumstances into poverty, then there is reason to believe that family structure is indeed harmful to children's well-being. Because family income is much higher in two-parent households than in one-parent households, children in two-parent families (first-married and stepfamilies) will have higher levels of well-being than children in single-parent (continuously single-parent and divorced) families (Acock and Demo, 1994). But while stepparent families are better off financially than single-parent families, they still fall behind families headed by both biological parents (Thomson et al. 1994). Two perspectives explain how income affects children's life chances - the *investment* theory and *the role of family processes* (Becker 1991; Becker and Tomes, 1986; Mayer, 1997; Haveman and Wolfe, 1995; Haveman and Wolf, 1994).

The Investment Theory

The investment theory holds that the determinants of children's well-being focuses on how parental choices affect outcomes for children, namely the investment decisions made by their parents as well as endowments that parents pass on to their children. (Becker 1991; Becker and Tomes, 1986). Endowments encompass biological traits (e.g. child's gender and ethnicity), and cultural traits (e.g. value placed on education). Investments in children include expenditures on their skills, health, learning, motivation, credentials and many other characteristics (Becker and Tomes, 1986). Hence, time and energy is invested in the children's "human capital", by purchasing health, food, housing, education and other goods and services intended to improve their future well-being. The theory holds that children raised in affluent families will have better life chances than children raised in poor families because high income parents can both pass on their superior endowments and they have the resources to invest more in their children. Parental investment in children is determined by parental values and norms, their availability to finance their investments (income and their access to capital) and by the availability of alternative sources of investments such as government programs (Mayer, 1997). Therefore, an increase in parents' absolute purchasing power influences children's well-being because the significance of income derives from what it buys.

Likewise, economic hardship will influence child well-being in a number of ways. It reduces a family's access to good schools, safe neighbourhoods, community resources, and recreational facilities. Poorer neighbourhoods are associated with inferior schools and higher levels of crime, factors that also exert a strong influence on children's well-being. Families with limited resources also face the challenges and obstacles in providing adequate food and nutrition and health services necessary for the healthy development of the child (Hanson et al. 1997b).

Studies have shown substantial drops in financial status and sustained fall in living standards after marital dissolution (Peterson, 1996; Elliott et al. 1993; Weston, 1986; Weitzman, 1985). A bleak observation among single-parent families is that their financial circumstances do not improve to the same level as the original two-parent household. Remarriage however can alleviate the financial adversity given the additional economic provider in the household (Holden and Smock, 1991).

One of the inherent consequences of marital dissolution relates to the father's absence from the household and his inability to fulfill his instrumental role i.e. providing economic resources to the family. Becker (1981) argues that non-resident fathers feel less altruistic to their children over time, because they are less involved with their daily activities or are unaware of their emotional needs. The development of new emotional attachments may also undermine the previous commitments that fathers have with their children. Hence, father's absence is perceived as the direct cause of the loss of commitment and economic resources, which ultimately leads to a loss of social capital for the child (Weiss and Willis, 1985). Parental absence therefore, is associated with decreases in parent-child contact, parental supervision and support. These processes in turn are associated with behavioural problems among children (Furstenberg et al. 1987; Dornbusch et al. 1985).

Acock and Demo (1994) identified the effects of family structure, family resources, and selected family process variables on various dimensions of children's well-being – including socioemotional adjustment, global well-being and academic achievement. Mother's education had a positive effect on global well-being and socioemotional adjustment of children in first-married families and continuously single parent families. The effect for continuously single-parent families is somewhat stronger, suggesting that education of mothers who have never married may be an important resource in influencing the well-being of children. Household income however was significant only in affecting children's academic outcomes, suggesting that children's academic performance is facilitated by higher family income and mother's education. Family process variables such as marital conflict and parent-child interaction exerted a stronger influence in children's socioemotional adjustment and global well-being. The findings from this study reaffirm the pervasiveness of family relations in shaping children's outcomes.

McLanahan and Sandefour (1994) analyzed three nationally representative longitudinal data sets (Panel Study of Income Dynamics, the National Longitudinal Survey of Young Men and Women, the High School and Beyond Study, and a cross sectional survey (National Survey of Families and Households). They found that relative to children in two-parent families, children in single-parent families are less likely to graduate from high school and college, and are somewhat more likely to be idle in young adulthood. Because unmarried mothers are younger and more likely to be poor, their children are more likely to experience more stress and economic insecurity and are therefore expected that they will be less successful in school. Alternatively, children who come from widowed families also have a much lower dropout rate than other children from disrupted families. They reasoned that children who lose a parent through death do not necessarily face the issues of parental conflict with the nonresident parent, nor the economic insecurity prevalent among continuously single mothers. Perhaps the most consistent finding that accounts for these differences is not just low income per se but the loss of economic resources associated with family disruption.

Along similar lines, Seltzer (1994) emphasizes the importance of economic resources for explaining effects of marital dissolution on children. According to Seltzer, the four components of financial hardship include the following: (1) low absolute level of economic resources; (2) abrupt decline in resources after separation; (3) disparity between the incomes of mothers and fathers; (4) instability in income after divorce. When parents separate, children feel a tremendous sense of loss and anxiety of who will take care of them (Wallerstein and Kelly 1980). The loss of material comforts and uncertainty about income may also threaten the emotional security of children's environment. Moreover, the stress of the many changes associated with family relationships which accompany divorce and separation – residential moves, changes in mother's employment and childcare arrangements, and the disruption of household daily routine – also contribute to children's emotional security. Threats to children's emotional stability in turn lead to anxiety, depression and disruptive behaviour.

The loss of elements which provide for children's basic needs – economic factors, emotional security, socialization and parental supervision and support - is central to explaining the consequences of marital dissolution on children. These elements are considered to be crucial for the well-being of children and any type of family disruption that involves any of these losses lead to adverse health risks for children. Mayer (1997) assessed the trends in parents' income from 1959 to 1989 and its effects on trends on several outcomes among teenagers such as dropping out of high school, educational attainment and teenage childbearing. According to the investment theory, the effects of parental income on children's outcomes reflects the importance of parents' command over resources which help children either by increasing the quality and quantity of goods and services or by reducing parental stress. Evidence however on the trends in children's material living conditions (information on housing conditions, access to medical care, and ownership of some common durables) demonstrate that trends in family income do not necessarily correlate with families' command over resources. This suggests that changes in family income are not a reliable guide to changes in children's living conditions; hence, parent's income cannot fully capture the trends in parents' command over resources. It cannot be discounted that children from poor families fare worse than children from affluence families; but it cannot be discerned whether a decline in parents' income over time indeed leads to a decline in children's life chances. Changes in income alone are not sufficient in explaining children's outcomes; the mediating processes must also be explained when accounting for the income differences in children's health and well-being.

2.3.2 The Role of Family Processes

A limitation to the investment theory is the lack of information on what accounts for the relationship between low income and children's health and well-being. An alternative perspective emphasizes the importance of mediation processes, in particular, patterns of parenting, parental health and family conflict as consequences of poverty and economic deprivation, and in turn as antecedents in children's well-being. It should also be noted as well that these processes are not mutually exclusive but instead should be perceived as cumulative and interactive. For example, single parents who have higher levels of depression are less likely to demonstrate warmth and affection towards their children as a result of being more socially isolated and lacking in social support than their two-parent counterparts. The crucial issue is how socioeconomic circumstances contribute to parent health status and how that ultimately affects children's health.

Parental Health Status

A vast array of literature has consistently demonstrated that lone parents have higher levels of psychological distress both before and after marital dissolution (Hope Power and Rodgers, 1999; Benzeval, 1998; Aseltine and Kessler, 1993; Booth and Amato, 1991; Doherty et al. 1989). If we take for example how stressful life events such as divorce can trigger psychological distress, individuals undergoing family transition such as separation experience an increase in levels of depression, suggesting that the time leading up to separation is marked by intense family conflict (Hope, et al. 1999). Equally important is the period following marital dissolution. Studies (already mentioned) have shown elevated psychological distress after separation. The deterioration in economic circumstances and even the lack of social support can contribute to greater levels of stress and anxiety (Menaghan and Lieberman, 1986). Hope et al. (1999) have noted financial hardship as a major contributor to lone mothers' distress. The strain felt by these mothers was attributed to an accumulation of their financial difficulties such as rental payments, lack of savings, problems of damp housing, no central heating in their accommodation, no access to a telephone in their accommodation, and having to share a bathroom or more than one household facilities. Therefore, the mental health of adults is determined by the state of their accumulated financial hardship or the lack of economic resources.

It should be noted however, that while depression has been shown to increase at the time of separation, studies have also shown a decline or a leveling off comparable to married individuals after the initial period of two years (Booth and Amato, 1991; Lorenz et al. 1997). Booth and Amato (1991) demonstrate the levels of psychological distress by three different times since period of divorce. These include 24 months and less, 25 to 48 months, and 49 months and more. It was determined that for measures of unhappiness, depression and stress symptoms, recovery approaches normal levels, (or stress levels reported by the non-divorced population) in 24 months. Furthermore, severe stress was felt among those who were disadvantaged by limited resources, those who placed a great value to their marriage and those who believed that divorce is morally wrong. These factors demonstrate the importance of other moderating factors that may serve to alleviate the stress associated with family transition. Moreover, the passage of time should be taken into account as an indicator of the measure of parent's mental health. Parental health may very well be the most important family process, as it affects how the parent interacts with the child in the manner of parenting styles, which ultimately affect children's health outcomes.

Patterns of Parenting

Much research has shown that warm responsive parenting and involvement with children's activities are thought to provide children with a sense of security and trust (Campbell, S 1995). Children get a sense that they matter to parents when the parents invest time in a range of activities (i.e. school, religious, community or athletic activities). High parental aspirations can also provide a sense of direction and motivation to children (Hanson et al. 1997b). Consistent parental supervision and non-hostile discipline are thought to discourage children from delinquent behaviour (Patterson et al. 1989; Dumas et al. 1985).

Economic deprivation diminishes the parents' ability to provide these resources to their children. The challenges and frustrations that stem from the efforts to generate income and reduce family consumption are positively associated with psychological distress among poor adults. The ongoing stressful living conditions associated with financial hardship (inadequate housing and inability to pay bills) can trigger a range of psychological impairments (Elder et al. 1985; Dressler, 1985). Studies show that individuals who are experiencing job loss or severe income loss are more depressed, anxious, hostile, and have higher risks of neurosis, psychoticism and suicide (Gary, 1985; Holahan et al. 1983). Because they are more emotionally distressed than their advantaged counterparts, it is not surprising that economic hardship leads to a reduction in the capacity for parents to be warm, supportive and sensitive. Poverty also has been associated with an increased use of physical punishment as a means of disciplining and controlling the child (Conger et al. 1984). The reduction in the quality of interaction between parents and children (rejection and harsh discipline) leads to adverse health risks for the health and well-being of children (Conger et al. 1992; Elder 1974). These health risks can range from low levels of self-adequacy, social competence and conduct problems among children.

Conger et al. (1992) examined the mediational role of family processes in linking economic problems to both the prosocial and problematic adjustment of early adolescent males. Family processes include the parents' (both mothers and fathers) emotional state and the quality of family interactions primarily through parental behaviours. They illustrate the significance of emotional distress as a mediator that links economic deprivation to impairments in communication and child-rearing. They found that economic stress exacerbated problems in adults' emotional state and this in turn was negatively related to adolescent maladjustment primarily through their association with effective child-rearing behaviour. The importance of mother's unhappiness that arises from economic pressure exerted a stronger influence than father's depressive state on marital conflict, which in turn was inversely related to competent parenting. The improved measures especially of parents' emotional instability included depressed affect in their analyses as an important emotional indicator that brings women into the process.

McLeod and Shanahan (1993) explored the relationships among current and persistent poverty, maternal parenting behaviours, and children's mental health. The importance of this study is that it addressed the contribution of duration of poverty to mental health. Past research focusing on the detrimental effects of poverty on children's outcomes assume that current poverty subsumes all the relevant variation in economic deprivation when predicting children's health risks. The authors in the study emphasize the possible differing effects of current versus long-term poverty on children's health. One perspective points to the effects of persistent poverty as more detrimental to children's health because it implies greater economic deprivation. The chronic stress that deprivation creates is in turn associated with poorer mental health (Devine et al.1992).

In contrast, current poverty may be viewed as more stressful because "previous economic experience, good or bad may be overwhelmed by immediate financial problems, such as difficulty paying bills or the threat of mortgage foreclosure"(McLeod and Shanahan, 1993: 352). They found that as duration of poverty increases, so too do children's feelings of unhappiness, anxiety and dependence. Parental behaviour (as measured by frequency of spanking) apparently stabilized as poverty persists and that family adapts to economic hardship. Therefore, parental behaviour does not act as a powerful mediator to the effects of long-term poverty on children's mental health. On the other hand short-term poverty contributes to more hostile disciplining among mothers, accounting for the greater effects of immediate financial strains on children's outcomes. The findings from the study call for a greater distinction between current income and financial history when analyzing the influence of economic deprivation.

Elder et al. (1985) extend the linkage between economic deprivation and children's lives by accounting for the *mediating* as well as the *moderating* processes. The study extended the analytic framework of *Children of the Great Depression* (Elder 1974), a longitudinal study of 167 California children, born in 1920-21 and grew up in Oakland during the 1930s. They specified the causal path between economic change and children's functioning by examining the role of parenting behavior, in particular the father's style of parenting, as the mediating process in linking financial hardship to children's socio-emotional adjustment. They also accounted for the conditional effects, in this case the child's physical attributes that moderate parenting behaviour in hard economic times. They found that the physical attractiveness of girls conditioned father's behaviour toward them during hard economic times. That is, economically deprived fathers were more rejecting towards unattractive daughters than attractive daughters. They also exhibited greater warmth and responsiveness toward attractive girls than their advantaged counterparts. The findings of the study demonstrate the role of moderating processes as a conditioning variable in understanding the relation between poverty and parental behaviour. This signifies the importance of protective factors and circumstances that serve to buffer the negative mediating processes involved in establishing the relation between poverty and child's outcomes.

2.3.3 Family Conflict as Mediator of Family Structure and Children's Health and Well-Being

A discussion of the effects of family structure would be incomplete without consideration of the factors that serve to mediate the influence of family structure on children's lives. One of the salient features of family processes relates to the presence or absence of family conflict. The perspective posits that family conflict is detrimental to children's well-being, regardless of whether the child lives with biological parents, stepparents or with a single-parent (Acock and Demo, 1994). Consistent exposure to marital conflict is physiologically and affectively stressful to children resulting in a greater incidence of behavioural problems. Witnessing angry interactions between parents may result in children perceiving aggression as acceptable, which may lead them to rely on coping responses that are considered less mature or adaptive. Indeed, children learn a great deal about interpersonal relationships from direct observation of their parents. Watching their parents engage in aggressive behaviour during conflicts leads children to rely on behaviours such as aggression or withdrawal as appropriate models of problem solving or conflict resolution (Grych and Fincham, 1990).

Parental conflict can threaten the emotional security of children as their fears heighten about the instability of the marriage. These conditions can decrease their sense of self-confidence, self-worth and competence (Davies and Cummings, 1994). Hence, children exposed to high levels of marital conflict and/or parental conflict will experience lower levels of well-being than children in families with less conflict. For example, Peterson and Zill (1985) found that children living in two-parent families characterized by moderate to high levels of conflict demonstrated higher levels of behavioural problems than children living in low-conflict families.

Family conflict is also associated with behavioural problems because it leads to deterioration in parent-child relationships (Grych and Fincham, 1990). Within marital conflict especially, parent-child relations may suffer because the hostility and aggression felt during marital conflict may be reproduced in the parent-child relationship. The experience of anger and negative emotion in one social context can trigger similar feelings and behaviours in related contexts (Berkowitz 1989; Emery et al. 1987). Parents may express hostility toward their children and might even attempt to form an alliance with the child against the other spouse, thus creating divided loyalties for the child.

Morrison and Coiro (1999) examined the level of marital conflict preceding marital disruptions and how they affect children's behavioural problems. This enabled them to test whether children benefit when high conflict marriages are dissolved, or whether children are at higher risks for such problems when the couple was in low-conflict marriages or when couples remain together. The authors found that regardless of the level of conflict reported before the disruption, separation and divorce were associated with increases in children's behavioural problems. However, the largest increases in problems were evident among children whose high conflict parents remained together. The importance of the study was that it could be discerned whether divorce was beneficial for children when it entailed removal from intense family tensions. Post-divorce conflict however could not be measured, which would have also answered the question whether the behaviour problems among children also reflected on-going tensions and disagreements among the parents.

2.4 Children's Health and Well-Being in Canada: Evidence from the Ontario Child Health Study (OCHS 1983 and 1987) and the National Longitudinal Survey of Children and Youth (NLSCY)

Several studies have examined the effects of family structure and low income on a variety of children's outcomes that range from academic performance, psychiatric disorders, and social problems. The Ontario Child Health Study, carried out in 1983 with a follow up in 1987, provided information on how physical health, child psychiatric disorders and social and educational functioning were associated with a variety of sociodemographic variables. Lipmann and Offord's longitudinal study (1997) determined that poverty had a more detrimental effect on academic performance than psychiatric disorder and this is especially so when it occurs early in a child's life. Given that psychiatric disorders become more prominent later in life (for example adolescence), the effects of poverty may not be as pronounced when examined on a sample consisting of younger children. They also found that family structure, as opposed to adverse family circumstances significantly influenced social impairment and chronic health problems. The modest effects of economic deprivation on child outcomes call for the need to examine the more salient features (parent-child relationships and family conflict) that mediate the effect of these exogenous variables on children's health. The 1983 cross sectional estimates also revealed significant associations between family structure and child psychosocial morbidity. Children from lone parent families had increased risks of psychiatric and academic morbidities, but lost its significance once welfare income was included in the analysis (Munroe et al. 1988).

Studies on the first wave of the NLSCY also examined the effects of family structure and poverty on children's outcomes. Cross-sectional research have provided the opportunity to examine the key determinants of child development including - the roots of babies' difficult temperament, emotional and behavioural problems, indicators of academic achievement and how they vary between males and females, social impairment and youth violence to name a few (Lipman et al. 1996; Normand et al., 1996; Offord and Lipman, 1996; Tremblay et al. 1996; Willms, 1996). Most of these studies recognize the increasing diversity of Canadian family life and how they influence children's well-being. For example, some studies focus on the range of differences between children raised in two-parent families versus single-parent families (Lefevebre and Merrigan 1998), differences among children in lone-parent families (Ross et al. 1998; Lipman et al. 1996), as well as children raised in stepfamilies (Cheal, 1996). The significance of mediating processes (parental resources, neighbourhood characteristics, and family resources) was also noted. In this regard, parental resources such as consistent and non-hostile vs. hostile parenting styles appear to have the strongest influence on children's lives (Ross et al. 1998; Landy and Tam 1996).

Willms' (2002) edited volume of articles which focussed on the first wave of the NLSCY provides a comprehensive analysis of identifying the risk (or protective) factors that impact on children's outcomes. Identifying these factors that may place children at risk for undesirable outcomes is essential so that social programs can be tailored to reduce the prevalence of vulnerable children. The risk and protective factor research has stressed on the importance of the investment theory, which posits that children's social, emotional and intellectual development is determined by their parents' investments in their well-being. Childhood vulnerability is also influenced by family and parenting practices. Specifically, this entails the "the role of maternal depression and the extent to which parents are engaged with the cohesiveness or adaptability of the family" (Willms, 2002: p. 25). One of the surprising findings found from the study was that childhood vulnerability was only weakly associated with family income. The study found that families who were living in the lowest income quartile had a higher prevalence (37%) of vulnerable children. However, more than half (63%) were not considered vulnerable nor were they exhibiting major behavioural problems. These children also scored average or above average on cognitive measures. These results challenge the well-established stereotype that children who come from poor families do poorly is school and display more behavioural outcomes. In fact, parenting practices were found to outweigh the effects of income on children's outcomes (Chao and Willms, 2002; Miller, Jenkings and Keating, 2002). Chao and Willms (2002) found that even the relationship between socioeconomic status and parenting was weak and that income and parenting independently influenced children's outcomes.

It is difficult however to make causal inferences on cross-sectional data, and as Willms (2002) acknowledges in this volume, making causal inferences on the relationship between parenting styles and child outcomes is bolstered by theory and previous research. Willms (2002) clearly makes the case for the need to examine the causal mechanisms by which changes in childhood vulnerability are related to changes in parenting styles. He states that "longitudinal data affords the opportunities for investigations focussed on the long-term trajectories of children's outcomes and how these are related to individual's characteristics and experiences" (2002: p. 354).

Insight into the childhood risk factors that affect negative developmental outcomes, as well as protective factors that promote successful outcomes among children can only be discerned if one is able to track their developmental progress through childhood and their adolescence years. Currently, the cross-sectional estimates cannot provide information on how long certain childhood risk factors have been present, nor how long they will persist.[2] As a result, it cannot be determined which critical periods in a child's development should be targeted for interventions to ensure the long-term well-being of children.

A few studies have undertaken a longitudinal approach to investigate children's health and well being, by focusing on the first (1994 to 1995) and the second wave (1996 to 1998) of the NLSCY. These investigations include the effects of marital transitions on children's adjustment (O'Connor, 2000), changes in poverty status and child developmental outcomes (Beiser, Hou, Kaspar and Noh, 2000), and family relationships and children's school achievement in one and two-parent families (Adams and Ryan, 2000).

O'Connor et al. (2000) examined the risk and protective factors in explaining children's adjustment to family transitions. An important contribution of this study was that it explored the effects of movement into and out of poverty and the pathways by which it affects developmental behaviours among children. The study determined that moving out of poverty was not enough to improve children's developmental outcomes unless accompanied by improvements in the standards of living. Furthermore, the comparison between non-immigrant and immigrant groups provided insights into childhood risk factors and how that may differ among sub-groups of the population, given the diversity of Canada's population. One noteworthy finding was that unlike non-immigrant families, movement out of poverty among the immigrant population was more important in influencing children's outcomes than the non-immigrant population. As immigrant families adapt to a new life in Canada, one of the pervasive factors in determining their successful integration into Canadian society was an improvement in their standard of living over time. This shows that economic situations at least among the immigrant population are more important in influencing children's health than parental characteristics. This shows the importance of economic resources and how they differ among family types in influencing children's outcomes. Similar to this study, Beiser et al. (2001) determined that among immigrant families who were persistently poor, increases in absolute income reduced children's behavioural problems. However, for non-immigrant families, changes in parental characteristics were more important than changes in economic resources in determining children's outcomes.

The above studies focussed on the mother's report on child behavioral outcomes. An alternative assessment of children's outcomes is provided by Adams and Ryan (2000), where the effects of family structure, family processes on children's academic success are based on the teacher's reports. The importance of the study was that by distinguishing between two-parent and single-parent families, the authors were able to discern the differences in parenting styles, parental health and family dysfunctioning between these two family types. For example, two-parent families were found to have higher associations with socioeconomic status, more support, and lower levels of parental depression which in turn explain the family structure differences of why children in two-parent families were less hyperactive and more skilled academically.

The three longitudinal studies mentioned have provided important insights into utilizing a longitudinal approach to studying children's health outcomes. A longitudinal approach allows one to examine insights that normally would not be captured when using cross-sectional data. For example, the time ordering of events (to be discussed more in detail in the next chapter) is an essential component to be considered when studying the impact of family change on children's lives. Past studies have only examined the change status between two panel waves; whether change from cycle 1 or cycle 2 or change from cycle 1 to cycle 3. The processes leading to family change must be considered at each specific time point in order to take full advantage of the change analysis. Substantively, this enables one to specify whether any effects observed are indeed apparent before the event of separation, or occur as a result of either separation or remarriage. This research addresses this issue specifically by accounting for the child's health characteristics before the event of separation for example, when ascertaining their state of emotional health that result from family change.

Another aspect surrounding the time ordering of events pertains to the influence of economic resources and family processes as important mediating factors in determining children's health outcomes. The studies reviewed in this chapter have provided valuable information on the social and economic factors that influence children's psychological and physical health outcomes. Such factors include the parent's state of health, parenting styles, household income, and family conflict. Yet past studies have mainly focussed on these factors as the determinants of children's outcomes and rarely have they considered children's health characteristics as also influencing economic resources and family processes. It is well-established for example that parenting styles influence children's behaviour; but equally important is to also examine how children's behaviour also influence parent's health characteristics. Keeping in mind that we are focusing on the parent's assessment of family change and children's outcomes, studying family change can only be enriched by also examining an often neglected aspect of family change – namely the important roles that children play in the event of transition. This will be captured by looking at the influence of children's state of emotional health and how they also contribute or hinder the possibility of family transition. We ask for example, can children's emotional health in one period influence the parent's ability to stay in a single-parent household or change into a two-parent household at subsequent waves of the study?

Finally, past studies have focussed mainly on psychological health outcomes, namely internalizing (depression) and externalizing (aggressive) behaviours. And as mentioned earlier, only few studies have looked at physical health outcomes. This thesis will consider another physical health outcome such as the risk of injuries (see Chapter 5). This enables us to understand which health outcomes are more sensitive to family change and which remain as inherent stable characteristics of the child.

The aim of this dissertation is to look at these specific issues which can only be achieved by utilizing a longitudinal approach. An important consideration is to look at family change across time by extending the analyses to the third wave of the study. This entails including all the measures of the variables of interest for three time periods (as demonstrated in Chapters 6 and 7). This is paramount when examining the effects of a short-term versus long-term exposure to single-parenthood or poverty. This enables us to examine whether children's outcomes are conducive to changes in parenting styles, family functioning and parental depression. Modeling these changes with longitudinal data will provide a stronger case for a causal relationship between family transition, household income, parental depression and child outcomes. Building on the first and the second wave of the NLSCY, this thesis investigates the determinants of children's health and well-being by critically examining the important aspects that contribute to the changes in children's development. Therefore, this dissertation will employ three panel waves (1994/1995, 1996/1997 and 1998/1999) of the NLSCY. We examine the roles of economic resources and family processes as mediating factors in children's health. The next chapter provides the theoretical frameworks to be used for studying family transition and its influence on children's lives.

Chapter 3
Theoretical Frameworks for Understanding Family Change

To understand a complex phenomena such as family transition and its implications on parents' and children's lives requires the challenge of pulling together a dearth of information from various disciplines such as sociology, developmental psychology, and economics to name a few. Even though each perspective offers its own theory, methodology, and interpretations of understanding children's outcomes, we shall see that there are indeed parallels and similarities from these different frameworks. And so we view each theoretical framework as complementing rather than competing perspectives.

3.1 The Process-Context Model and Linked Lives

Drawing from the developmental psychology discipline, we introduce Bronfenbrenner's (1986) ecological theory – as a context for studying human development. From this framework, he introduces the process-context model – which involves the assessment of the impact of the external environment on family processes. The developmental outcomes of children require going beyond the simple comparison of contrasting environments. By restricting our conceptualization to social address models as specified by geography (rural versus urban; Canada versus United States), or by social background (two-parent versus single-parent; rich versus poor, etc.) we limit our scope by which these contrasting environments influence child development:

> "No explicit consideration is given…to intervening structures or processes through which the environment might affect the course of development. One looks at the social address…with no attention to what the environment is like, what people are living there, what they are doing, or how the activities taking place could affect the child." (Bronfenbrenner and Crouter, 1983, pp. 361-362).

Therefore, the impact of family structure differences on children's physical and psychological health is best understood if we incorporate processes such as parent-child relationships, family functioning, and parental depression in our analyses. What accounts for example, for the relationship between economic resources and family structure differences on children's health and well-being is the parenting they receive. According to Belsky (1984), parents who are sensitively attuned to their children's abilities and developmental tasks promote positive health outcomes such as emotional security, behavioural independence, social competence and intellectual achievement. A parent who is able to adopt a warm and nurturant orientation toward the child is also one who is psychologically healthy. He further notes that there are three major influences of parenting and these include parental characteristics and resources, the social context in which the families live, and the characteristics of children. Of these, parental characteristics (such as parental health) are the most important.

To cite a common example, it is well-established that people exposed to a number of undesirable events such as divorce experience more emotional problems (Ross et al. 1998). Single mothers especially have less social support than married mothers and are more likely to experience the chronic sources of stress. Indeed, single mothers are at greater risk for a variety of mental health problems including anxiety, depression and other psychosomatic problems, (Guttentag et al. 1980). One important consequence of stress-related negative feelings is the impairment in the quality of the parents' childrearing skills (Ge et al. 1994; Colleta, 1981). A number of studies point to the implications of depression on the parenting behaviour and find a general pattern of maternal unresponsiveness, non-supportiveness and hostile tendencies toward the child (Davenport, Zahn-Waxler, Adland and Mayfield, 1984). McLoyd (1990) further notes that in situations where there is no marital partner to offer emotional, social and especially financial support, psychological distress is high and ultimately undermines the quality of parenting.

The mediation processes, such as parental health, parenting styles may be more important in accounting for children's physical and psychological health outcomes. We shall explore the impact of these processes, whether family structure differences disappear or still persist once we include these family processes in our analyses. Also, we examine what the most important family process is in explaining children's health and well-being.

There are also three different environmental systems that serve as external influences to the family.[3] The microsystem model comprises the sets of relationships of the child, usually within the family, in particular the parent-child relationships. According to Bronfenbrenner, the processes operating in different settings are not independent of one another. The parent's characteristics are expected to influence the child's personality, and vice versa. This requires investigation of bi-directional relationships between family processes; so, while parental depression affects child's outcome such as emotional anxiety, it is also expected that the child's health will also influence family process such as parental depression. It has been noted in the child development literature that the temperament of the child influences parental functioning.

Furthermore, the characteristics of children that make them more or less difficult to care for determine the development of parent-child relations (Lerner and Lerner, 1983; Bates, 1980). This allows us to examine the research question to be explored later: Can parental and children's health among single parent families contribute or hinder the possibility of change to a two-parent family? This opens up an avenue for further exploration into how family processes can also emerge from the child's perspective and how that ultimately impacts family change over time.

Along similar lines, Elder (1994) introduces the most central component of the life course theory, namely the notion of *linked lives*. According to Elder (1994), the principle of interdependent lives refers to the interaction between the individual's social worlds over the life span, including, family, friends, and coworkers. Amato and Booth (1997) further emphasize that:

> "People do not live in isolation; their decisions, circumstances affect the lives others – especially other family members…parents also influence children's personalities, attitudes, values, self-concepts, social skills and lifestyles…Because offspring carry these traits toward their adult lives, interpersonal outcomes such as marital quality, divorce, and parent-child relationships are also to a certain extent transmitted across generation." (1997: p. 3-4).

Therefore, the characteristics of the family origin (e.g. single-parent versus stepparent) will impact children's lives over time. For example, Acock and Demo (1994) argue for the importance of the characteristics of the family origin rather than family structure in accounting for children's characteristics. They charge that family structure provides little information about the dynamics of family relationships, the time parents spend with their children, relationships with extended family members and childrearing practices and values. They stress the importance of disentangling the separate effects that family structure, family relationships and other variables (income, race and social support) have on children's well-being. Their analyses of the 1988 National Survey of Families and Households reveal family process variables (mother-child contact, father-child interaction, low levels of parent-child conflict, and higher maternal well-being) were more important than family structure in explaining children's emotional adjustment and global well-being. This demonstrates the importance of identifying more proximate familial experiences in influencing children's lives.

3.2 The Exosystem Model and Social and Economic Capital

Bronfenbrenner introduces one of three environmental systems that influence child development. Child development is affected not only by what happens in the child's environment, i.e. places in which children spend their time, such as their familial household, but also by the settings in which parents interact, a place where children seldom enter (Bronfenbrenner, 1986). These include places such as the parents' work setting, and their social circle of friends. These environmental settings are considered external to the child's development and are referred to as "exosystems."

If we take for example, the impact of the parent's working environment on the child's health and well being – the child clearly has no direct physical access to the parent's world of work; yet is indirectly affected by the stresses associated with work such as unemployment and job insecurity. Indeed, work-related stress increases the likelihood of greater family conflict which in turn disrupts parenting relationships. The tensions and pressures in the work setting would affect the parent's mood and behaviour, ultimately affecting how the parent interacts with the child and his/her spouse.

Researchers first explored the impact of the father's unemployment during the Great Depression on the family (Elder 1974). Unemployment results in a loss of status within the family, which triggers increased family tensions and disagreements. Economic difficulty can contribute to the spousal conflict as challenging choices about expenditure of inadequate sums of money lessens joint amicable problem solving, often resulting in decreased levels of communication among family members. (McLoyd, 1990). Financial hardship further contributes to the individual's inability to cope with new problems and difficulties resulting in debilitating effects as poor families become more vulnerable to the impact of negative life events (Turner and Noh, 1983; Myers and King, 1983).

Parallel to the exosystem model is James Coleman's (1988) notion of social capital that is comprised of different entities with the purpose of: (1) consisting of some aspect of social structure (2) facilitating certain actions of persons within the structure. (p. 98). Family background for example is cited as a single entity that is further divided into three components: financial capital is represented by the family's wealth or income.[4] An increase in parents' absolute purchasing power influences children's well-being because the significance of income derives from what it buys. These include the physical resources that aid in healthy development such as a designated room for the child to study, additional lessons or participation in sports activities that enhance the child's self-esteem. A few examples include music lessons, hockey or soccer clubs, and dance lessons. It is evident that the child has no physical access to the parent's economic resources, such as their parents' financial investments or household income, who their parents interact with at work or in the social setting (country clubs for example). The child nevertheless reaps the benefits of the family's financial resources as it translates to a more social form of capital - one that contributes to better life chances, and his overall health and well-being.

Human capital is measured by the parent's education and provides the resources for a cognitive setting for the child's learning environment. Social capital on the other hand, refers to the relations between parents and their children. Specifically, these include the quality of time parents spend with their children, such as helping them with homework and encouragement of intellectual pursuits. Hence, social capital also has similarities to Elder's notion of linked lives. According to Colemen (1988), while children are affected greatly by their parent's human and financial capital, it becomes irrelevant to children's health and well-being if parents do not play a primary role in children's lives or if their "human capital" is employed exclusively at work or outside the home."(p. 110). In other words, higher income or higher levels of education among the parents will not necessarily translate to healthy child development if the parents do not spend a great deal of time with their children, there are high levels of family dysfunctioning at home or great tensions among family members or even if parents suffer from psychological distress.

In contrast, low income parents may have high parental aspirations for their children's achievement which may encourage children to strive for more ambitious pursuits in their lives. Coleman (1988) provides an example of one public school district in the United States, where texts for the schools used were purchased by families. School officials discovered that Asian immigrant families often purchased two copies of each textbook required for the child. It turned out that the extra copy was purchased purposely for the mother to study to encourage her child to do well in school. This exemplifies how human capital is low as measured by low years of education, but the social capital within the family is high as determined by the amount of hours that mothers spend with their child helping them with their homework. Hence, the physical presence of adults in the household and the attention and supervision provided to the child provides the access to the adult's human capital. Without social capital, the child cannot profit from human capital.

In single-parent families, the absence of the biological father is seen as a structural deficiency. The father's absence is perceived as the direct cause of the loss of commitment and economic resources, which ultimately leads to a loss of social capital for the child. Likewise, the number of siblings can also represent the lack of social capital, given that it also leads to the decreased time and attention from the parent to the child (Coleman and Hoffer, 1987.)

Social capital may also be lacking in stepparent families. Family relations must be renegotiated to accommodate the presence of another adult in the household. It is also considered to be fragile at least in the early years of its formative phase given that it has not had the opportunity for "community development that stems from partnership formation, the event of births, and preschool activities that normally integrates biological parents and their children to their community and neighbourhoods" (Pryor and Rodgers, 2001 p. 46). At least, in the early years of stepfamily formation, community social capital may be lacking for these families.

This thesis will also explore the influence of economic resources by distinguishing between two-parent and single-parent families. When family change occurs as a result of marital dissolution for example, both parents and children find themselves adapting to the changes in family relationships and household routines. How would economic resources affect children's health in single-parent and two-parent families? Will household income alleviate some of the strain associated with single parenthood? What is more important in single-parent and two-parent families in terms of economic resources? Is social capital more important than human capital in single-parent families?

3.3 The Chronosystem Model and the Timing and Sequencing of Events

Bronfenbrenner (1986) proposes the term *chronosystem* for studying the impact on the person's developmental changes over time in the environment in which the person is living. Accounting then for changes over time within the person as well as their environment and more importantly – the analyses of the dynamic relations between these two processes are paramount in determining their influence on child development. He also posits the simplest form of chronosystem – one that focuses on the life transition. Life transitions can be normative (school entry, labour force entry, marriage and retirement) or non-normative (a death in the family, divorce). These family transitions are expected to occur throughout the life cycle and provide the basis for developmental change. The progressive impact of a life transition can be studied over time, whether the impact of an event persists throughout the child's life. Hetherington et al. (1982) illustrate the impact of divorce on the parent-child relationships and the child's behaviour in school. They found that the effects of marital disruption reached its peak in the first year and declined thereafter; with the passage of time, the negative consequences of divorce is reduced. Another consideration relating to the impact of an event is that human development is not confined to a single transition, but instead is subject to different transitions throughout the life cycle. Therefore, it is important to account for the cumulative effects of a sequence of developmental transitions over time (Bronfenbrenner, 1986; p. 724).

The main focus in this thesis includes both normative and non-normative change – movement from two-parent to single-parent family, or change from a single-parent to a two-parent family. These changes are also expected to influence children's health indirectly through family processes. Hence, the impact of a life transition (e.g. change from two-parent to a single-parent) will be illustrated in this thesis by looking at how the influence of divorce affects parent's and the child's health over time. Employing longitudinal analysis will allow us to study the dynamic relations between these processes and to uncover the onset and the direction of these processes. This allow us to explore an often neglected part of family change: how parental and children's characteristics, such as psychological health also influence family transition.

Similar to the chronosystem model is Elder's (1994) notion of *timing and sequencing of events.* A key assumption is that the impact of any event depends on where people are in their life cycle at the time the change occurred. The effects of family circumstances such as parental divorce, remarriage, or unemployment will have different consequences for children depending on what their ages or even if they are still residing at home (Amato and Booth, 1997). Children's reaction to family transition occur in the context of what children's sense of a family is or the meanings that families have for them. Pryor and Rogers (2001) assert the following relationship between age and children's behaviour:

> "A child's age is more clearly associated with their immediate responses to separation. Age, for example, gives a guide to predicting the reactions children are likely to have at the time of separation. Similarly, age is a factor in children's adjustment to stepfamily living, particularly in regard to the kind of relationship they establish with the stepparent. But age has an ambiguous relationship between behaviour and well-being some time after a transition has occurred." (2001; p. 234).

Parental divorce will incur different reactions depending if the child was a preschooler (under 5), if they are school-aged children, or even if they are at the pre-adolescent stage (Wallerstein and Kelley, 1980). Preschoolers may react to fear and anxiety of abandonment since their capacity to understand what is happening is limited. The intense longing for the absent parent results in the fear that he or she will never come back and is further aggravated by anxiety of the possible loss of both parents, at least from the child's perspective. As a result, symptoms of lost attachments associated with grief such as anger, sadness or disbelief are expected (Burns and Dunlop, 1999). It is possible at this stage, that children blame themselves for the event of the separation or divorce, and may even hope for the possibility of a reconciliation (Wallerstein and Kelley, 1980; Plunkett and Kalter, 1984). With the passage of time however, children begin to understand more that they were not the cause of their parent's divorce or separation, and eventually realize that a reconciliation may not happen at all (Kurdek and Siesky, 1980). On the other hand, younger school-aged children (5 –8 years old) have a more sufficient understanding of the situation. They still feel an enormous sadness over the event of separation, but may also be affected by the loss of concrete and tangible resources such as insufficient food and toys (Pryor and Rodgers, 2001; Galinsky, 1987).

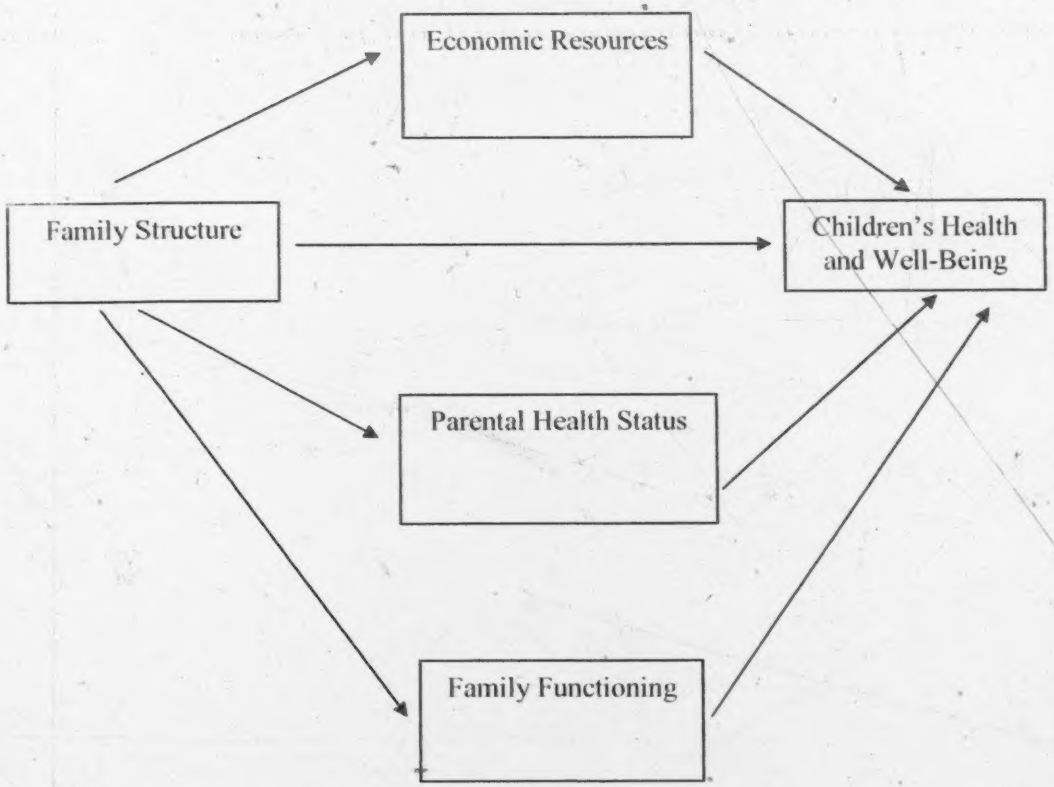
Another example regarding children's reactions to family transitions relates to the establishment of stepfamilies. The adjustment stepfamilies must experience, at least in the formative phase, may not result in great gap in terms of expectations and behaviour if the children are very young. On the other hand, adolescents may find it harder to accept the parental role of a step-parent, since it is also at this developmental stage where they are beginning to nurture their own autonomy and move away from monitoring and supervision. These understandings will be shaped by their own experiences, for example living in a household with both biological parents, a step-family, or a continuously single-parent family (Pryor and Rodgers, 2001). The consequences of remarriage also may depend on the parent's previous economic status. If the single-parent household was marked by poverty and extreme financial strain on the family, then change into a two-parent household may be beneficial for children if it results in an improvement on the family's overall financial well-being, given that there is another economic provider in the reconstituted family.

The impact of a divorce also depends on the processes leading to the event – what were family circumstances like before the event such as marital dissolution? If the event was preceded by a period of intense conflict then the removal of the child from a high-conflict environment may result in the improvement of the child's health outcomes (Morrison and Coiro, 1999). Longitudinal studies that started before the parental divorce suggest that some of the differences between children who experienced their parents' divorce and those who do not were observed before the divorce occurred (Block, Block and Gjerde 1986; Cherlin et al. 1991). These differences are referred to as "pre-disruption effects" – which may be attributed to family conflict before divorce, but cannot be attributed to the marital disruption given that the disruption has not yet occurred. They may even be attributed to specific characteristics of the children or their parents that influenced their family lives. A genetic tendency for example within the family such as a history of depression may contribute to the parent-child relationship, or family tensions and disagreement, and even the child' s state of depression that persists into adulthood, thus providing the false impression that the event of divorce caused the child's state of depression. It is essential therefore, that the circumstances and processes leading to the family transition are considered to have a better understanding of the impact of any event on children's lives. Hence, the timing of life events becomes the cornerstone of studying family change and its influence on children's lives. A longitudinal approach to studying family transition and its impact on children's lives provides the method for integrating the above mentioned models. This thesis utilizes a longitudinal approach to studying family change and its impact on children's lives. This allows us to establish a temporal order, and rule out the possibility that the relationship between the variable of interest such as parenting styles and children's health outcomes is actually produced by the child's behaviour causing the parent's health outcomes, or through a reciprocal causal relationship.[5]

3.4 Toward a Synthesis – A Process Model for Understanding the Impact of Family Structure and Economic Resources on Children's Lives

Figure 1 presents the theoretical framework for this thesis.[6] This project will examine three dimensions of children's health and well-being: physical health as measured by the number of injuries, and psychological health as determined by emotional disorder, physical aggression and destructive behaviour. The exogenous factor is represented by family structure. It is proposed that children's health is determined both by family structure as well as the mediating processes. The mediating processes include economic resources and the family processes as noted by parenting style, family functioning, and mother's health status. Children's health will be analyzed for the age groups 4-11, also known as the middle years and pre-adolescence.[7]

Figure 3.1 Theoretical Model of Children's Health and Well-Being



3.4.1 Child Development during the Middle Years

During the middle years, children's psychosocial development consists of many several challenges including the challenge of knowing who they are (growth of self-knowledge), the challenge to achieve, and the challenge of family relationships (Seifert and Hoffnung, 1994). In this time period, children develop a deeper sense of their identity and their uniqueness. The middle years are often considered to be critical for the development of competence and self-confidence. Their sense of self rapidly evolves during this time, and becomes more increasingly complex. This then serves as a framework for organizing and understanding their experiences, laying the groundwork for later development. It is also at these ages where children form a more stable sense of self by developing a more patterned and integrated self-descriptions (Damon and Hart, 1988). For example, a child may proclaim to be smart in a number of activities with the knowledge that this does not encompass every significant situation. For the most part, children develop a sense of identity by developing a social self which stem from their awareness of their relationships with other people in their lives, including their social experiences with other children and adults (Damon and Hart, 1988).

Family relationships are primary to the child's development, despite the growing influence of their peers. Children have a better understanding of their parents' attitudes and expectations which ultimately impacts the quality of relations between middle-years children and their parents (Galinsky, 1987). Parents continue to monitor their children's behaviours, but less so than during their preschool years. The security and attachment formed during the preschool years provide the basis for family relations to be unique and meaningful during the middle years.

3.4.2 Health and Illness in Middle Childhood

In the middle years, children's curiosity about the wider world encourages them to explore the neighbourhood around their home and school, and larger territories in general. Their improvised games usually require more space than preschoolers encouraging them to play in the streets. Hence, physical safety poses a serious health problem, increasing their risks for accidents, including fractures, poisoning, or open wounds that require medical attention (Wright et al. 1987; Garling and Valsinger, 1985). Childhood illnesses are often acute, such as colds, gastrointestinal flu, chicken pox, and measles. About 10 percent of children develop chronic illnesses or conditions that persist for many months without significant improvement (Seifert and Hoffnung, 1994). The severity and frequency of illnesses are largely influenced by the child's social and economic circumstances. Children in high-income families may get sick as often as children in low-income families, but they also stay at home for significantly shorter periods of time than children from low-income families. According to Green (1991), low-income parents may lack the resources for immediate medical attention or the time required to spend with their children. A child must be suffering from a major illness, such as infection or high fever that warrants seeing a physician or staying home from school for a much longer time. The next section describes the causal mechanisms in which family structure and economic deprivation affect children's health and well-being.

3.4.3 Does Type of Family Structure Matter?

The changing nature of modern families has raised new questions about children's development. Marital breakup is often a highly disruptive experience for school-age children and their families, forcing both parents to make major adjustments in their lives.

Aside from the economic and psychological pressures associated with family change such as divorce, children are faced with the problems of loneliness and isolation from their parents. Parents face difficulties exercising their responsibilities, which may cause them to withdraw emotionally from their children. This leaves children to be emotionally cautious and feeling lonelier than ever (Emery, 1987).

3.4.4 The Role of Economic Resources

Economic deprivation accounts for the family structure effects to the extent that economic deprivation explains why lone-parent children tend to have less desired developmental outcomes. The loss of economic resources that stems from marital dissolution primarily contributes to the problems faced by children of divorce. Economic deprivation can directly affect children's health as poor single mothers lose the capacity to provide adequate nutrition, and other resources necessary for a healthy child development. In particular, divorced parents may be forced to move to unsafe neighbourhoods where health services are inadequate and crime rates are high (McLanahan and Booth, 1989).

Economic deprivation also affects children's well-being through the mediating processes parental health status, parenting styles and family functioning.[8] In particular, parents' response to economic pressure affects childrearing practices which ultimately impact children's outcomes. Economic loss can precipitate psychological distress by leaving the individual bereft of a sense of identity, purpose and social contacts (McLoyd, 1990). Studies show adults experiencing job loss are more depressed, hostile and dissatisfied with their lives. As pessimism about life increases, the level of psychological distress also increases (Elder et al. 1992). Economic deprivation facilitates negative health outcomes for parents, which then impinge on their parenting styles. Financial hardship is expected to affect parents' health status which provides the principal mechanism through which economic deprivation influence parental behaviours and family functioning.

3.4.5 The Influence of Family Processes

As mentioned, the influence of family structure on children's health is largely a function of the mediating processes. By accounting for differences in *family functioning*, *parenting styles* and *parental health status* across different family structures, we can discern the influence of family structure on children's health. It is well-established in the literature that children from single parent families are at increased risk of a range of difficulties compared with children raised in two-parent families. These negative outcomes range from emotional and behavioural problems, and academic and social difficulties. It should be noted however, that the majority of children from single-parent families do not encounter these difficulties and that most of these children with problems come from two-parent families. Any other differences observed were modest and statistically insignificant (Lipman et al. 1996; Acock and Demo, 1994).

This research will distinguish between stable families between the two time periods, (where no change occurred) and those who experience recent change in structure i.e. the movement from biological parent or stepparent to single parent families or the change from a single parent to a stepparent family. The marital and family histories of these family types are quite distinct from each other, suggesting that there may be differences in the quality of family relationships that influence children's well-being (Acock and Demo, 1994). For example, families headed by stable biological parents may be more similar to those stable stepparent families than one recently formed due to a breakup of stepparents or both biological parents. The underlying question is how the quality of family relationships and parenting styles vary across different family structures to ultimately impact child development.

The link between the quality of parenting practices and children's well-being stems from the socialization literature which demonstrates that certain parenting styles are beneficial to child development. Warm, consistent and supportive parenting are associated with children who are affiliative and assertive, whereas negative interaction coupled with rejection and coldness, are associated with the development of conduct disorders, especially among boys (Tschann et al. 1989). As noted earlier, the family composition hypothesis posits that two parents serving as role models are essential for the normal development of children.

Increasing family diversity may blur generational boundaries and that children from single parent families may not learn hierarchical role models. Parental supervision may be weaker and less structured which then increases the chances of children "getting into trouble" through delinquency, and premarital pregnancy (Amato, 1993; Hogan and Kitagawa, 1985). And given that custodial parents are in the labour force, the amount of time and energy that can be devoted to their children are often limited. The reduced parental contact, supervision, support and control contribute to an increased risk for a number of behavioural problems, low self-esteem and misbehaviour (Belsky 1990; Furstenberg et al. 1987). On the other hand, parental absence from the household does not necessarily lead to a decline in children's well-being if there is frequent contact with the non-custodial parent. Moreover, a stepparent can also serve as an alternate role model and source of support and control. Children of divorce then may not necessarily suffer the consequences of the loss of the custodial parent from the household when there is frequent interaction with the non-custodial parent or when there is another adult in the household that provides an alternate source of support. It is proposed that family structure affects children's health through parenting practices. Parenting practices encompass dimensions of positive responses, negative responses, mother's activities, father's activities, and parental aspirations.

Family structure also affects child outcomes through family functioning. A home environment marked by positive family functioning leads to higher levels of children's well-being than one characterized by a high degree of conflict. Because children tend to imitate their parents, repeated exposure to family conflict indirectly teaches children that fighting is an appropriate method for dealing with disagreements (Jekielek, 1998; Bandura, 1977). Parental conflict also contributes to stress in a child's environment, which can threaten a child's sense of security. Children in turn may react to interparental conflict with negative emotions such as fear, anger and distress. Children also may be drawn into conflict by taking sides, resulting in a deterioration of family cohesiveness. It is also possible that children may blame themselves for interparental hostility, resulting in deteriorations in family cohesiveness (Amato, 1993). This research will examine the degree to which family functioning mediates the effects of family structure on children's health.[9]

It is therefore essential to examine whether different family types have different rules, expectations, and values for their children. How much time do parents and children spend together and does this vary by the type of family? Are there better levels of communication in one family type than another? Is consistent non-hostile discipline more prevalent among mothers in stable single parent families or stepfamilies? These questions will help to disentangle the separate effects that family structure, family relationships and parenting styles have on children's outcomes.

Family structure also affects child development through parental health status. Parents who are supportive and exercise consistent non-hostile discipline facilitate the healthy development of children. However, the stressful events experienced by parents can trigger a chain of events involving parental mood and behaviour, which causes them to be withdrawn, tired and depressed. A parents' depressive state leads to a reduction in their capacity to be warm, supportive and responsive. Adults who experience some difficulty in adjustments may demonstrate harsh, hostile and irritable responses towards their children and be more inconsistent in their use of discipline. Parents who are anxious, depressed and angry may also be less affectionate, less communicative and more distracted in their interactions with their children. These stress-inducing disruptions in parenting styles are expected to lead to adverse child outcomes. Punitive parenting and irritable responses to the child can contribute to his/her sense of inadequacy and loss of control triggered by an unpredictable environment (Ge et al. 1994). This in turn leads to adverse health risks among children.

3.5 Demographic Characteristics

Though not illustrated in the diagram, we shall also account for the role of other demographic characteristics, to be considered as "control" variables in our empirical analyses. These include gender, child's age, parent's age and number of siblings. The timing and sequencing of events (from the life course theoretical framework) posits that the impact of the event depends on where people are at the stage of their life cycle. In this case, we will assess the impact of family change that occurred when children are 4-7 years old and when they are 6 to 9 years old.[10] The children to be considered in this sample are still relatively young and have not yet reached pre-adolescence. Children who will undergo family changes at this age will also be at risk for subsequent family transitions. For example, those who will move from a two-parent to a single-parent family at a young age will most likely experience movement into a step-parent family (DeGarmo and Forgatch, 1999).[11] The findings of the impact on family transition on children's behaviour and its variation by age are mixed. Allison and Furstenberg (1989) found that the impact of marital dissolution was more severe among younger children, particularly among families that separated when children were in the preschool years. Consistent with the variations of children's perceptions of family by age, (see section of Chronosystem Model and the Timing and Sequencing of Events in this chapter), we expect the following outcomes: Change from a two-parent to a single-parent family will be more detrimental for younger children, whereas change from a single-parent to a two-parent family will incur adverse health effects for older children.

The role of gender in explaining children's health and well-being is not straightforward. Studies have determined that short-term adjustments following transitions are more detrimental for boys than girls (Emery, 1988), but Allison and Furstenberg's (1989) study found no support for the hypothesis that family change (such as marital dissolution) has greater impact for boys. In the same study, the authors determined the following finding: In situations where statistical significance was detected, girls fare worse than boys in areas such as teacher's report of problem behaviour, child's report of dissatisfaction, and child's report of distress. The adjustments to stepfamilies may differ between boys and girls. Studies have found that girls have greater adverse risks than boys for behaviour problems (Amato and Keith; 1991) but these seem to be more prevalent among younger children (Hetherington and Cox 1982). These differences have also been found to disappear by adolescence (Hetherington, 1993). There are no clear-cut explanations then for gender differences in children's outcomes. We can only surmise that boys will react more to family transition adversely in certain outcomes (such as conduct disorders) whereas girls will respond negatively in behaviours such as emotional disorder.

Siblings can be important sources of emotional support especially during periods of family change, but can also be contributors to distress. It was mentioned earlier that in single-parent families, the number of siblings could represent the lack in social capital as children must find a way to adapt to limited financial resources. Moreover, the greater number of siblings may result in parents' inability to spend adequate and quality time with all the children. As a result, we expect that an increase in the number of siblings lead to more negative health outcomes among children. It cannot be discounted however that siblings can also be important sources of emotional support towards one another as they undergo family transition. This is one example where sibling relationships can also be perceived as a moderating factor, by providing the buffer against the stress associated with family change.

It is well-established that personal maturity, and psychological well-being contribute to parent's ability to interact positively with their children, which then contribute to healthy child development (Belsky, 1984). If age is perceived as an indicator of maturity then we expect that an increase in parent's age will lead to positive health outcomes for children. Given however the select sample of children to be studied in this thesis, there will not be a huge variation in parent's age, and may hence only influence children's behaviour modestly.

3.6 Hypotheses

Based on the synthesis of the literature, we propose the following hypotheses:

Hypothesis 1: Family structures other than two biological parents will be detrimental to children's outcomes. Change in particular from two biological parents to a single-parent status will be most detrimental for children's health. It is also expected that change from a single-parent status to a two-parent status will have adverse effects for children's health. These effects will also be mediated by economic factors (such as household income), mother's mental health and family functioning.

Hypothesis 2: The lack in financial capital (as represented by low household income) will lead to negative outcomes for children's health.

Hypothesis 3: Hostile negative interactions will lead to adverse health outcomes. It will also reduce the family structure effects on children health and well-being.

Hypothesis 4: Higher levels of family dysfunctioning lead to lower levels of children's well-being. It will also account for some of the family structure effects on children's health.

Hypothesis 5: Higher levels of parental depression lead to detrimental child outcomes. It will also account for the family structure effects on children's health.

We analyze these hypotheses in Chapter 5 on a wide variety of children's health outcomes as a function of family structures and change. It will be shown that family structure will mainly be a function of economic resources and family processes. The time-ordering of events will also be explored by undertaking a longitudinal approach – one that examines all the possible influences of family background characteristics at a specified time period and its impact on children's health and well-being on the subsequent wave period.

Chapter 4
Description of the Data

4.1 Data Source

The first three waves of the National Longitudinal Survey for Children and Youth (NLSCY) from 1994/1995, 1996/1997 to 1998/1999 were utilized to investigate the economic and family processes explanations for family structure and change effects on children. The NLSCY is a long-term study that provides a unique opportunity to study child development as it follows a representative sample of children across Canada from infancy to adulthood.[12] Its goal is to collect information every two years on a wide variety of biological, social and economic characteristics and risk factors among children and youth. One of the main objectives is to broaden our understanding of the determinants of child development and well-being and the pathways in which they influence child outcomes (Michaud, 2001).

The NLSCY target population for the first wave consisted of the 24,971 Canadian children aged newborn to 11 years of age who live in private households. From these children, a total of 22, 813 responded from 13,439 households. Between cycles 1 and 2, the longitudinal panel selected in cycle 1 had to be reduced due to budget constrains and response burden.[13] The original sample therefore was reduced to a total of 16,903 children in cycle 2. From these children, a total of 15,385 responded in cycle 2 and in cycle 3 a total of 14,739 children responded.[14] Because the households for the main component was selected from Statistics Canada's Labour Force Survey (LFS) sample frame, children who were residing in institutions and Indian reserves were not included in the survey.

4.2 Data Collection

Data collection relied heavily on computer-assisted interviewing (CAI), which was carried out either by person or by telephone. Telephone interviews were used to collect information on demographic characteristics, whereas face to face interviewing was used to obtain other information. Interviewers followed a closed-format schedule (about 2 hours) in collecting a vast array of information on children's health and well-being, the physical and mental health of the parents, parenting styles, family functioning and neighbourhood characteristics. Face to face interviewing was useful in that it helped to secure the household's participation over a long period of time and provided the benefit of the rapport between the interviewer and the respondent (Michaud, 2001). The unit of analysis is intended to be the child. For each cycle, information was obtained on the child's family, (for example who the child lives with, whether there has been a change in family status), their parents' background such as age, health characteristics, and other demographic characteristics such as the number of siblings, the child's age, and household income. For each selected child, a question was asked who in the family (household) was the person who could provide information for all selected children in the household, and then provide the socio-demographic information about himself/herself. This person was labeled as the PMK or the person most knowledgeable about the child.[15]

4.3 Sample Allocation

As mentioned earlier, the NLSCY uses the Labour Force Survey (LFS) sampling frame and given that cluster sampling was employed for the LFS, its clusters become the basis for the NLSCY sample.[16] The analytic sample of 4-11 years old was selected to be consistent with the sets of questions asked of child outcomes, parenting styles and other family process variables. Parents whose children were less than four years old and older than 11 years old were asked different sets of questions in regards to parenting styles.[17] For the purpose of longitudinal estimates, the following sample was selected such that only children who would be followed in all three waves would be included in the analyses. These included children who were 4 to 7 years old in the first wave, who would then be 6 to 9 years old in the second wave, and finally 8 to 11 years old at the third wave of the study. The total sample size for the 3rd wave consisted of approximately 3800 children.[18]

4.4 Defining a Longitudinal Household

As mentioned above, the longitudinal sample was selected such that only children who were in the original sample of cycle one and who could be followed on to the second and the third wave was selected for the analysis. Choosing households as the unit of analysis would be straightforward if we were using cross-sectional data. In this particular case, we are dealing with longitudinal data, in which changes are expected to occur over time. Households and families change their composition from each cycle due to divorce for example. Hence, the individual was chosen for the unit of analysis and presents various family change information and other household variables as the characteristics of the individual. The files for the NLSCY data consist of child records, and to add files from cycle to cycle required the pulling of information together by the child identification. For example, the primary file which consisted of information on demographic characteristics, health information and other family relations variable was answered by the PMK. But additional information such as household income was obtained from the secondary file, and this required the merging of two different files based on child identification.

The weighting procedure was designed to calculate how many people each respondent represents. Because the number of persons each child represents is different for the cross-sectional and the longitudinal sample, Statistics Canada has designed a weighting procedure to account for the differential representation of population groups. The standardized longitudinal weight was utilized for the analysis.[19]

Defining family structures required the distinction between households that experienced any change between each cycle, and those that did not change between the two waves of the study. The following conceptualization was employed for the analysis in Chapter 5.[20] Family structure/change was conceptualized as to whether it remained stable between the two waves or whether a change occurred – i.e. from biological parent to single-parent, or from single-parent to stepparent. Stable biological parents was the reference category. Stable single-parent consisted of either custodial biological fathers or biological mothers.[21] Stable Stepparent families consisted of either biological mother and stepfather, or biological father and stepmother.[22] The family change variables represented whether a movement from one type of family structure to another occurred. This included the change from biological parents to single-parent, movement from stepparent to single-parent as well as change from single-parent to stepparent family between 1994/1995 to 1996/1007 and between 1996/1997 to 1998/1999.[23]

4.5 DEPENDENT VARIABLES:[24]

Development of the scales for the NSLCY required consideration of what scales were to be used for a specific concept. The scales that were selected were also used in other studies where the psychometric properties of the measures produced by the scale were available with complete references. The physical aggression scale and emotional disorder scale have been previously used from the Ontario Child Health Study. There were two sub-samples of 7073 and 7153 created for the factor analysis of 47 items. Normalized weighted data was used for the computation of the following factors identified: emotional-disorder anxiety, physical aggression, and a new factor destructive behaviour.[25]

This study examines the following child outcome variables:

Injuries – whether the child was injured in the last twelve months (0-No; 1-Yes).

The following child developmental behaviours involved measures that required the PMK to answer several questions with answer choices that included "never or not true", "sometimes or somewhat true", or "often or very true".

Destructive Behaviour – whether the child engages in destructive behaviours that involve stealing and vandalizing both at home and outside the home (0-No; 1-Yes). This "acting out" behaviour ranges from a variety of activities that include how often the child steals at home, vandalizes, steals outside the home, destroys his/her own things, and destroys things belonging to his/her family or to other children.[18] The cronbach's alpha for the scale is .637.

The **conduct disorder behaviour** is characterized by physical aggression, often referred to as externalizing problems. This is represented by a factor score that ranges from 0 to 12, with a high score demonstrating behaviours with conduct disorders or physical aggression. The factor score was derived from the following items: (1) How often the child gets into many fights; (2) Whether the child reacts with anger or fighting if someone else accidentally hurts him/her (such as bumping into him) assuming that the other child meant to do it; (3) Whether the child physically attacks people; (4) how often the child threatens people; (5) How often the child is cruel, bullies or is mean to others; (6) how often the child kicks bites of hits other children. The Cronbach's Alpha value for the factor score is .770.

Emotional Disorder is often referred to in the literature as internalizing problems and encompasses feelings of anxiety and./or depression. Emotional disorder is represented by a factor score that ranges from 0-16 with a high score indicating the presence of behaviours associated with anxiety and emotional disorder. The factor score was derived from the following items: (1) How often the child seems to be unhappy, sad or depresses; (2) Is the child not as happy as other children; (3) how often the child is fearful or anxious; (4) how often the child is worried; (5) does the child cry a lot; (6) does the child appear miserable, unhappy tearful or distresses; (7) how often does the child appear nervous, highstrung or tense; (8) does the child have trouble enjoying himself or herself. The Cronbach's Alpha value for the factor score is .794.

4.6 INDEPENDENT VARIABLES:

Demographic Variables – Child's age and age of the PMK are measured in single years, while gender is coded as a dummy variable (0 = male; 1 = female). Also included is the total number of siblings living in the household.

Economic Resources – the PMK's years of education is measured in single years that ranges from 0 to 20 years. The natural logarithm of household income is utilized to represent the household economic resource. The mean of the household income for the three time periods are as follows: $51,071.00 for cycle 1, 54,004 for cycle 2, and

63,567.00 for cycle three. For the reasons of confidentiality only the lowest and the highest percentiles will be provided in this thesis. The lowest 25 percentile of household income for cycle 1, cycle 2 and cycle 3 are $27,000.00, $30,000.00 and $34,971.00 respectively. The highest 25 percentile of household income for cycle 1, cycle 2 and cycle 3 are $64,000.00, $68,000.00 and $75,153.00 respectively. The work hours represents the number of hours per week worked in the last twelve months by the respondent:

0 – did not work in the last twelve months; 1- less than 10 hours; 2 – between 10-19 hours; 3- between 20-29 hours; 4 – between 30-39 hours; 5 – between 40-49 hours; 6 – over 50 hours. Only the percentage of respondents who did not work and those who worked 40-49 hours will be reported.[26]

Family Process Variables – There are three variables used to represent family processes and these include: *Parental* Depression, Hostile Ineffective Parenting and Family Dysfunctioning.

The depression variable relied on a version of the depression rating scale (CES-D) a widely used survey instrument originally developed by L.S. Radloff (1977) of the Epidemiology Study Centre of the National Institute of Mental Health in the United States. The purpose of the scale was to gather information about the mental health of respondents, with particular emphasis on symptoms of depression. Unweighted data was used to analyze the scale.[27] A single-factor analysis was used with the intent of developing a global depression index. From the analysis, the 12 variables of the scale were retained as components of the factor since all 12 loading values met the established threshold. The Cronbach's Alpha value for this factor score is .82. Parental Depression is represented by a factor score that ranges from 0 to 36 with a high score indicating the presence of depression symptoms. The factor score was based on how the parent had felt or behaved during the past week in which respondents provided the 4 possible answers: 1- rarely or none of the time (less than one day); 2 – some or little of the time (1-2 days); 3 – occasionally or a moderate amount of time (3-4 days); 4 – most or all of the time (5-7 days). The 12 individual items are as follows :

(1) I did not feel like eating; my appetite was poor; (2) I felt I could not shake off the blues even with help from my family or friends; (3) I had trouble keeping my mind on what I was doing; (4) I felt depressed; (5) I felt that everything I did was an effort; (6) I felt hopeful about the future (reflected); (7) My sleep was restless; (8) I was happy; (9) I felt lonely; (10) I enjoyed life; (11) I had crying spells; (12) I felt people disliked me.

Questions related to the family dysfunctioning variable were developed by researchers at the Chedoke-McMaster Hospital of McMaster University. The respondents were asked to indicate which response best describes his/her family: 1) strongly agree; 2) agree; 3) disagree; 4) strongly disagree. Its purpose is to measure various aspects of family functioning such as problem solving, communications, roles, affective involvement, affective responsiveness, and behaviour control. It represents a level of cohesion among families. The importance of the family functioning scale has been demonstrated in the Ontario Child Health Study showing an important link between family dysfunction and mental conditions of children. The family functioning scale was administered to the PMK or spouse/partner as part of the Parent Questionnaire. The unit of analysis therefore was the family and unweighted data was used to analyze the scale.

From the single-factor analysis, all 12 variables of the scale were kept since the loading values were above the established threshold. The Cronbach's alpha coefficient was .88. Family Dysfunctioning is represented by a factor score that ranges from 0 to 36 with a high score indicating higher levels of family dysfunctioning. The factor score was based on the following items: (1) Planning family activities is difficult because we misunderstand each other; (2) In times of crisis we can turn to each other for support; (3) We cannot talk to each other about sadness we feel; (4) Individuals (in the family) are accepted for what they are; (5) We avoid discussing our fears or concerns; (6) We express feelings to each other; (6) There are lots of bad feelings in our family; (7) We feel accepted for what we are; (8) Making decisions is a problem for our family; (9) We are able to make decisions about how to solve problems; (10) We don't get along well together; (11) We confide in each other.

The parenting style was derived from the Parenting Practices Scale developed by Strayhorn and Weidman (1988) with additional questions provided by Dr. M. Boyle of the Chedoke-McMaster Hospital. Hostile Ineffective Parenting is characterized by ineffective interactions and is represented by a factor score between 0 and 25 with a high score indicating the presence of hostile or ineffective interactions.[28] The factor score was based on how often the parent interacts with the child in a manner as described by the following items: (1) The parent gets annoyed with the child for saying or doing something he/she is not supposed to; (2) What proportion is praise whenever the parent discusses the child's behaviour; (3) What proportion of the child's behaviour is centered on disapproval; (4) How often the parent gets angry when the child is punished; (5) Is the kind of punishment given to the child dependent upon the parent's mood; (6) Is the parent having problems managing the child in general; (7) How often does the child have to be disciplined repeatedly for the same thing. From these items, the respondent can provide any of the following answers: 1) Never; 2) Less than half the time; 3) About half the time 4) More than half the time; 5) All the time. Normalized weighting data was used to calculate the cronbach's alpha for the 7 items and was determined to be .702.[29]

4.7 Modeling Change with Panel Data

The panel data includes measures of variables for each child and parent at time 1, time 2 and time 3. This allows use of information about prior values in constructing and estimating our causal model (Finkel, 1995). The general model to be used for the analyses can be estimated as:

$$Y_t = B_0 + B_1 X_{t-1} + B_2 X_{t-1} + B_3 X_{t-1} + \cdots + Y_{t-1} + \varepsilon_t$$

The presence of the lagged dependent variable Y_{t-1}, or lagged endogenous variable allows us to explicitly analyze the changes in *Y* over time. If we can show that *Y* at time 2 is associated with changes in *Y* at time 1 and independent variables x also at time 1, this represents more direct evidence of a causal effect from X to Y than we normally would estimate from static cross-sectional designs (Finkel, 1995). In this case, we will use all independent variables and dependent variable as measures at the previous wave and discern its impact on the dependent variable at the subsequent wave.

The structural model being estimated in this analysis differs for specific outcomes. For destructive behaviour and risk of injuries, we employ logistic regression, a procedure employed for dichotomous outcome variables. In this case, we are interested in the probability of the child experiencing an event (as in the case of being injured in the last twelve months) or displaying a particular trait such as destructive behaviours and how various characteristics such as age, gender, education or income determine the probability. For ease of interpretation, the coefficients can be converted to odds ratios by estimating *e* raised to the power of the coefficient (Norusis, 1993). We can ask then: What is the ratio of the odds of an event occurring after a one-unit change in the independent variable given that all other independent variables in the model are held constant. For example, if the odds ratio for being female (males = 0; females = 1) was .75 in the risk of being injured then this indicates that the odds of having been injured in the last twelve months were only 75 percent that of males. Determining the incidence of these two outcomes is relatively straightforward. Because there are only two possible values (in the case of injuries for example, whether the child has been injured or not in the last twelve months), we can then model the probability of being injured. We repeat the same procedure for the outcome destructive behaviours. For the baseline model, we can model the risk of injuries as:

$$L_n\left[{}^{p}\!/\!_{(1-p)}\right]_t = B_0 + B_1X_{1,t-1} + B_2X_{2,t-1} + B_3X_{3,t-1} + B_4X_{4,t-1} + B_5X_{5,t-1} +$$
$$B_6X_{6,t-1} + B_7X_{7,t-1} + B_8X_{8,t-1} + B_9X_{9,t-1} + B_{10}Y_{10,t-1} + \mathrm{U}$$

where:

$L_n\left[{}^{p}\!/\!_{(1-p)}\right]_t$ = the logarithm of the odds of being injured in the last twelve months,

where

p is the proportion of children who have been injured and (1-p) is the proportion who have not been injured;

B_0 = the intercept term (the value of ln[p/(1-p)] when all predictors are set to zero.

$X_1,\ldots\ldots, X_9$ are the independent variables where:

X_1 = single-parent (stable);

X_2 = stepparents (stable);

X_3 = change from biological to single-parent;

X_4 = change from stepparent to single-parent;

X_5 = change from single-parent to stepparent;

X_6 = gender; 1= Female;

X_7 = number of siblings;

X_8 = child's age;

X_9 = parent's age;

Y_{10} = injuries at time 1; 1=YES;

The corresponding coefficients $B_1, \ldots, B_{10}$ represent the change in the logged odds of being injured for a one-unit change with its associated independent variable. The direction of the slopes, as indicated by a positive or negative sign represent its increase or decrease in the child's probability of being injured. So if gender has a negative effect, then we surmise that girls are less likely to be injured than boys. Logistic regression will also be utilized for the outcome destructive behaviours.

The following dependent variables, emotional disorder and conduct disorder will be estimated with ordinary least squares regression. We also determine the function of these dependent variables at time *t* as a function of the independent variables measured at time *t-1;* Likewise, we estimate the model with the inclusion of the lagged dependent variable. We also replicate the same procedure for time two and time 3 by estimating time three dependent variables as a function of time 2 independent variables.

4.8 Descriptive Statistics

Descriptive statistics will be computed first to provide a general overview of the child and parental characteristics differences that exist among different family structures. Tables 4.1 and 4.2 present the descriptive statistics for demographic characteristics, economic resources, family processes and children's outcomes by family structure. The mean age for children in this sample is around 5 years for the first time period and around 7 years for the second time period. The greatest number of years of schooling and highest income level are among households of both biological parents. Here, the average years of schooling is around 12.60 years. For the purpose of analysis, the log of the household income is used for estimation of the models throughout the thesis. So a log of 10.70 would be equal to an average household income of $44,355.00.

Looking at the family process variables reveals some differences across the different family structures. Stable biological parents showed the lowest scores on parental depression (3.77; 3.90) while stable single-parents (7.37; 7.43) showed higher scores. The stress associated with marital breakup is evident as change from biological parents to single-parents showed the highest scores of parental depression (9.53; 8.83). Hostile ineffective parenting was pretty consistent across family types although it was slightly lower for stable biological parents (8.70; 8.69).

Children from stable stepparent families especially for 1996 to 1998 were more likely to be injured (16%) than children from any other family forms. Children from families that experienced change from both biological parents to single parents (61.12; 59.09) as well as children who experienced a change from single-parent to stepparent family (60.46; 60.48) demonstrated the greatest percentage who exhibit destructive behaviours.

The next chapter assesses the degree to which economic resources and family processes account for the family structure differences among children. It should be noted that the relationships between the variables of interest presented so far are intended for one direction. That is, child health outcomes will be presented as a function of the stated independent variables. Later on (in Chapter 6) we extend the theoretical framework and discuss more in detail issues related to longitudinal analyses such as stability effects, cross-lagged effects and reciprocal causation.

Table 4.1 Means and Standard Deviations or Percentages for Variables by Family Structure

	Stable Biological Parents	Stable Single-Parent	Stable Step-Parent	Biological to Single-Parent	Single-Parent to Step-Parent	Step-Parent to Single-Parent
	1994 - 1996/ 1996 -1998	1994 - 1996/ 1996 - 1998	1994 - 1996/ 1996 - 1998	1994 - 1996/ 1996 - 1998	1994 - 1996/ 1996 - 1998	1996 - 1998
Child's Age						
Mean	5.52/7.51	5.57/7.54	5.64/7.67	5.27/7.29	5.54/7.36	7.55
Std Dev	1.12/1.13	1.04/1.06	1.10/1.14	1.03/1.12	1.18/1.02	1.05
PMK's Age						
Mean	34.98/36.96	32.91/35.47	30.17/31.83	33.28/4.70	30.20/33.02	33.02
Std Dev	4.99/5.13	5.88/6.24	5.16/4.17	35.04/3.85	4.04/4.92	5.48
Number of Siblings						
Mean	1.52/1.57	.95/1.06	1.27/1.20	1.18/1.79	.91/.93	1.29
Std Dev	1.04/1.02	.86/.90	1.17/1.00	.83/1.50	.92/.80	1.03
Years of Education						
Mean	12.59/12.86	11.80/12.17	11.43/11.65	12.64/12.60	11.69/12.10	12.16
Std Dev	2.25/2.12	1.89/2.02	1.63/1.54	2.06/1.63	1.47/1.58	1.55
Household Income *(ln)*						
Mean	10.79/10.85	9.87/9.96	10.66/10.68	10.66/10.68	9.82/9.99	10.38
Std Dev	0.57/0.55	0.54/.63	0.64/0.53	.65/.51	.50/.59	.52
Number of Hours Worked/Week[a]						
% not work	19.3%/ 19%	3.6%/ [b]	1%/ 1.8%	.8%/ .9%	8%/ [b]	[b]
% worked over 39 hours	15.1%/19.2%	2.9%/ 1.2%	1.2%/ 2.7%	1.2%/ 1.2%	.8%/ 1.2%	[b]
Number of Families	3108/2974	531/535	157/152	140/1329	90/133	54

Table 4.2 Means and Standard Deviations or Percentages for Variables by Family Structure

	Stable Biological Parents	Stable Single-Parent	Stable Step-Parent	Biological to Single-Parent	Single-Parent to Step-Parent	Step-Parent to Single-Parent
	1994 - 1996/ 1996 to 1998	1994 - 1996/ 1996 - 1998	1994 - 1996/ 1996 - 1998	1994 - 1996/ 1996 - 1998	1994 - 1996/ 1996 - 1998	1996 - 1998
Parental Depression						
Mean	3.77/3.90	7.37/7.43	5.28/4.94	9.53/8.83	4.37/5.98	5.90
Std Dev	4.75/5.02	7.28/6.48	6012/4.84	8.10/7.87	5.47/6.49	4.97
Hostile/Ineffective Parenting						
Mean	8.70/8.69	9.68/9.55	9.45/10.27	8.48/9.39	9.65/8.87	9.07
Std Dev	3.66/3.69	4.31/4.28	4.23/3.93	3.48/3.39	3.56/4.13	3.84
Family Dysfunctioning						
Mean	7.83/10.04	9.27/10.04	7.53/7.49	9.04/10.68	8.82/7.70	8.34
Std Dev	5.02/5.36	5.13/5.36	4.64/5.01	4.82/4.18	4.49/4.60	4.98
Child Emotional Disorder*						
Mean	2.40/2.59	3.40/3.54	3.43/3.18	3.60/3.94	3.48/3.19	3.52
Std Dev	3.06/3.01	3.13/2.82	2.48/2.96	2.95/2.94	2.93	2.93
Child Physical Aggression*						
Mean	1.23/1.20	1.82/1.60	1.56/1.18	1.23/1.91	1.43/1.59	1.17
Std Dev	1.67/1.67	2.31/2.13	2.10/1.70	1.55/2.26	1.71/1.83	1.41
Child's Injuries*						
Percentage	9.0/11.67	10.312.43	13.1/16.21	10.4/12.53	7.3/6.28	8.0
Destructive Behaviours*						
Percentage	42.56/37.88	56.69/50.14	57.68/65.23	61.12/59.09	60.46/60.48	57.54
* These dependent variables are based on mother's reports						
Number of Families	3108/2974	531/535	157/152	140/132	90/133	54

Chapter 5:
Family Diversity and Child Outcomes: From Structure to Process

The purpose of this chapter is to investigate the processes through which family structure affects children's health by focusing on two central characteristics of family life – economic resources and family processes. Indeed, considerable evidence points to the roles of either economic resources, parenting styles or family relations in family structure, but few attempts have been made to integrate these three explanations. This chapter examines how much family processes and economic resources account for the family structure differences in child outcomes. This entails examining the family structure, economic resources and family process variables at the first wave and its impact on child well-being at the second wave of the study. Subsequently, this is replicated by also looking at the independent variables at the second wave (1996/1997) and its influence on the time three dependent variables (1998/1999).

5.1 Design and Hypotheses

The main idea behind the analyses is to discern the importance of family structure versus family change and its impact on a wide range of health outcomes, including internalizing (emotional disorder) and externalizing (conduct disorder) behaviours, as well as property offences and risk of injuries. Equally important are the economic resources and family process variables and its influence on child outcomes. It is proposed that the initial effects of family structure or family change will be detrimental for children's outcomes. In particular, families who experience change from biological parents to a single-parent household between the two waves would be expected to suffer the greatest detrimental effects. The initial trauma of divorce or separation is particularly marked in the first two years following change and so we expect that its effects will result in an increase in child's emotional disorder, conduct disorders, destructive behaviour and the risk of injuries. The change from single-parent to a stepparent household is also expected to increase child's behavioural problems. Studies have shown that cohesion is lower in the early stages of stepfamily formation than families headed by both biological parents (Barber and Lyons 1994; Bray and Berger, 1993; Visher and Visher, 1990). However, stable stepparent families will not have as much detrimental effects on child outcomes as the other family structures. In comparison with continuously single-parent families (stable single-parents), household income would be greater for stable stepparent families, and so children are able to benefit from their parents' financial capital.

We also expect economic resources to reduce the detrimental effects of children from stable-single parents and families who changed from biological to single-parents. As stated earlier, the financial hardship felt by single-parent families translates to an increase in parental depression, which then results in hostile parenting with their children. Such negative interactions are expected to adversely affect children's health. The addition of family process variables are expected to reduce further the family structure effects on children's psychological and physical health outcomes. In particular, parents who suffer from a depressed state, or demonstrate negative interactions with their children and families who have higher levels of family dysfunctioning are expected to result in adverse health risks for children.

5.2 Methods of Analysis

OLS and Logit estimates are presented in three different stages for the child outcome variables. First, the baseline models are demonstrated to discern the importance of family structure differences. In these models, we show only the demographic characteristics such as child's age, the parent's age, gender and number of siblings in the household along with the family structure variables. Secondly, the economic resources variables are added on to the model, to ascertain the importance of household income, parent's education and parent's work hours. We can then compare which child outcome variables are sensitive to the influence of parental economic resources. Finally, we present the family process variables, parental depression, family functioning and hostile ineffective parenting. Here we can discern if much of children's negative health outcomes really are a function of family relations. Or, if the family structure effects persist even with the addition of economic resources and family processes, then surmise that family structure really is an important determinant of children's health and well-being.

5.3 Results

Tables 5.1 to 5.4 present the results for the dependent variables. Note that for all dependent variables, the models are first estimated with the baseline characteristics. The model estimations present child well-being as a function of family structure and change, and demographic characteristics (number of siblings in the household, child's age gender and PMK's age). Next, the economic resources models were estimated by adding the variables, household income, parental education and workhours. Finally, the family process models were discerned by adding the variables parental depression, hostile ineffective parenting and family dysfunctioning. Ordinary least squares (OLS) was utilized for emotional disorder and physical aggression while logistic regression was employed for the estimation of injuries and destructive behaviour. For injuries and destructive behaviours, the results shown in the tables are the unstandardized coefficients, but for ease of interpretation in reporting and discussing the results, these coefficients have been converted to odds ratios. All the regression models are estimated with cycle 1 independent variables and cycle 2 dependent variables while the same process is repeated with cycle 2 independent variables and cycle 3 dependent variables. In these and subsequent models, the standard errors are displayed in parentheses.

5.3.1 Emotional Disorder

The baseline model for the period 1994 to 1996 (Table 5.1) shows that out of all the family structure variables, the change from biological parent to a single-parent family represented the greatest effect on child emotional disorder, followed by stable stepparent and stable single-parent. The baseline estimated for the period 1996 to 1998 showed the magnitude of the effect for stable single-parent and change from biological to single-parent family was reduced. The stable stepparent category was not significant for the 1996 to 1998 period. Examining the overall effects of family change on children's outcomes requires the comparison of the different types of family structure across three time periods. Specifically, this involves examining the type of family change between 1994 to 1996 and its implications for a specific family structure category for 1996 and 1998. Note that the most adverse effects are associated with the change from biological parents to single-parent for both time periods whereby change into this particular family category results in higher levels of emotional disorder, although this is reduced slightly for the second wave of the study.

There are two possible implications for this type of family change for the second time period: The new family structure category would either be a stable single-parent category or a movement from single-parent to stepparent category between 1996 and 1998. If we follow through the same people who experienced the change from biological parents to single-parent between 1994 and 1996, and given that they remained single between 1996 to 1998, it follows that these people would also be considered in the stable single-parent category between the second and third wave of the study. Therefore, interpreting the results for the stable single-parent category for 1996 to 1998 would account for the group that was originally in the stable single-parent category for 1994 to 1996 as well as those individuals who experienced the move from two biological parents to single-parent between the first and the second wave of the study.

Similarly, the movement from single-parent to stepparents between 1994 and 1996 would result in either one of the following family structure categories between 1996 and 1998: stable stepparent or change from stepparent to single-parent. The change from stepparent to a single-parent category between 1996 and 1998 was not statistically significant.[30] Interpreting the results for the stable stepparent category between 1996 and 1998 would account for those individuals who were in the stable stepparent category as well as those who changed from single-parent to stepparent from 1994 to 1996, but remained stable stepparents between 1996 to 1998.

The sociodemographic variables were not significant, with the exception of the number of siblings for the periods 1996 to 1998 where it reduced the levels of emotional disorder. Adding the economic resources variables did not reduce the change from biological to single-parent family but brought it down to one-half for the stable single parent between 1994 to 1996. By 1996 to 1998, this effect was no longer significant. Household income for both time periods was significant demonstrating that higher levels of household income reduce child emotional disorder. The results for the economic resources model also show that the more years of education the parent has, the higher the score for child emotional disorder for the 1996 to 1998 time period.

Adding the family process variables show that parental depression had a positive effect for both time periods. For emotional disorder, a one unit increase in the depression score led to a .02 increase for 1994 to 1996 and .033 increase between 1996 to 1998 in the emotional disorder score. Hostile ineffective parenting also had a positive effect (b=.054 for 1994 to 1996 and b = .062 for 1996 to 1998) on emotional disorder. Family dysfunctioning, however, was not statistically significant.

We also examine whether the family process variables further reduce the family structure effects on children's outcome. The coefficient for the family structure change from biological to single-parent remained the same for the period 1994 to 1996. However, the magnitude of the effect for the 1996 to 1998 period was somewhat reduced from its baseline estimate of b=.702 to b=.561. The stable stepparent category was reduced by a very small amount from its 1994 to 1996 baseline estimate of b = .532 to b = .476. The change from stepparent to single-parent (1996 to 1998) and the movement from a single-parent to a stepparent household for 1994 to 1996 and from 1996 to 1998 was not statistically significant. The number of siblings for both time periods reduced the emotional disorder score. The effect of household income remained negative for both time periods where it reduced the children's levels of emotional disorder. Number of hours worked was not significant, whereas education demonstrated a small positive effect (b=.070) on emotional disorder for 1996 to 1998. The stability effects were statistically significant and in the positive direction.

Table 5.1: Emotional Disorder (Estimated OLS Regression Coefficients)

Independent Variable	1994 to 1996				1996 to 1999		
	Model 1 Baseline Model	Model 2 Economic Resources Model	Model 3 Family Process Model		Model 1 Baseline Model	Model 2 Economic Resources Model	Model 3 Family Process Model
Intercept	1.887 (.285)	4.278 (.719)	3.874 (.753)		1.545 (.332)	2.502 (.746)	1.726 (.785)
Emotional Disorder[c]	.501** (.015)	.498** (.015)	.460** (.017)		.540** (.014)	.544** (.014)	.491** (.016)
Single-Parent (stable)[a]	.468** (.111)	.269* (.126)	.164 (.131)		.356** (.120)	.242 (.133)	.099 (.137)
Step-Parent (stable)	.532** (.200)	.518* (.201)	.476* (.203)		-.265 (.219)	-.242 (.219)	-.215 (.222)
Biological Parent to Single-Parent	1.191** (.200)	1.165** (.201)	1.208** (.203)		.702** (.215)	.664** (.215)	.561* (.217)
Step-Parent to Single-Parent	b	b	b		.394 (.370)	.041 (.379)	-.217 (.408)
Single-Parent to Step-Parent	.481 (.251)	.260 (.259)	.166 (.260)		.302 (.235)	.199 (.240)	.281 (.244)
Gender 1 = Females	.044 (.072)	.032 (.072)	.064 (.074)		-.089 (.073)	-.093 (.073)	-.062 (.074)
Number of Siblings	-.067 (.036)	-.080 (.037)	-.111** (.037)		-.087* (.035)	-.090* (.036)	-.104** (.036)
Child's Age	.063 (.033)	.054 (.033)	.061 (.034)		.036 (.033)	.052 (.033)	.045 (.034)
PMK's Age	-.024** (.007)	-.016* (.008)	-.009 (.008)		-.009 (.007)	-.009 (.007)	-.005 (.008)
Household Income		-.211** (.072)	-.237** (.074)			-.173* (.072)	-.170* (.074)
PMK's Education		-.026 (.018)	-.026 (.019)			.060** (.019)	.070** (.020)
Work Hours		.002 (.015)	.0008 (.016)			.006 (.017)	-.003 (.017)
Parental Depression			.020** (.008)				.033** (.008)
Hostile Ineffective Parenting			.054** (.011)				.062* (.011)
Family Dysfunctioning			-.006 (.008)				.007 (.008)
	DF = 9; R^2 .246 Valid Cases: 4059	DF = 12; R^2 .250 Valid Cases: 4020	DF = 15; R^2 .259 Valid Cases: 3917		DF = 10; R^2 .293 Valid Cases: 3844	DF = 13; R^2 .298 Valid Cases: 3819	DF = 16; R^2 .310 Valid Cases: 3844

[a] Reference Category: Two Biological Parents (stable) ; b Too few cases in this category for estimation;
c For period 1994 to 1996, independent variable measure is 1994 while for period 1996 to1999, independent variable measure is 1996. ** Coefficients significant at alpha of .01. * Coefficients significant at alpha of .05.

5.3.2 Physical Aggression

The baseline estimates for the 1994 to 1996 period show that children from stable single-parent families demonstrated higher levels of physical aggression. None of the other family structure variables were significant for this time period. Boys had a greater propensity for physical aggression than girls and this was consistent for both time periods. This gender effect is an exception because of the relation between gender and fighting, that boys normally are likely to get into fights than girls. Number of siblings was associated with higher levels of physical aggression although its magnitude was reduced slightly for the 1996 to 1998 time period. The change from biological to a single-parent family was significantly associated with higher levels of physical aggression only for the 1996 to 1998 time period, though not quite in the same level of magnitude as emotional disorder. Adding the economic resources variables only reduced the stable single parent coefficient from its baseline estimate of .372 to .285. For 1996 to 1998 period however, this was reduced to a non-significant effect. Household income was significant and in the expected negative direction for both time periods.

The family process model shows that only hostile ineffective parenting was significant for both time periods, while family dysfunctioning showed a very small positive effect for the 1996 to 1998 time period. Unlike emotional disorder, (where the family process model reduced it to a non-significant effect) the results for physical aggression demonstrated that stable single-parent category was reduced only further to .246 for the 1994 to 1996 time period.

Table 5.2: Physical Aggression (Estimated OLS Regression Coefficients)

Independent Variable	1994 to 1996				1996 to 1999		
	Model 1 Baseline Model	Model 2 Economic Resources Model	Model 3 Family Process Model		Model 1 Baseline Model	Model 2 Economic Resources Model	Model 3 Family Process Model
Intercept	1.238 (.195	2.079 (.489)	1.675 (.508)		.747 (.217)	2.410 (.484)	1.783 (.508)
Physical Aggression[c]	.426** (.013)	.428** (.013)	.460** (.017)		.547** (.014)	.545** (.014)	.491** (.016)
Single-Parent (stable)[a]	.372** (.075)	.285* (.085)	.246** (.089)		.231** (.077)	.090 (.086)	.074 (.089)
Step-Parent (stable)	.240 (.133)	.255 (.134)	.222 (.134)		-.137 (.140)	-.159 (.141)	-.159 (.143)
Biological Parent to Single-Parent	-.022 (.135)	-.050 (.136)	.011 (.136)		.441** (.141)	.417** (.141)	.337* (.142)
Step-Parent to Single-Parent	b	b	b		-.376 (.239)	-.496* (.245)	-.565* (.264)
Single-Parent to Step-Parent	.042 (.171)	-.057 (.176)	-.106 (.176)		.154 (.151)	.021 (.155)	.114 (.157)
Gender 1 = Females	-.300** (.049)	-.308** (.050)	-.298** (.050)		-.185** (.048)	-.185** (.048)	-.180** (.048)
Number of Siblings	.157** (.025)	.146** (.025)	.141** (.025)		.087** (.023)	.086** (.023)	.094* (.024)
Child's Age	-.009 (.022)	-.007 (.022)	-.001 (.022)		.029 (.021)	.029 (.021)	.031 (.022)
PMK's Age	-.019* (.005)	-.016** (.005)	-.014** (.005)		-.013** (.005)	-.009 (.005)	-.005 (.005)
Household Income		-.102** (.049)	-.117* (.050)			-.173** (.047)	-.182** (.048)
PMK's Education		.019 (.012)	.019 (.013)			-.0009 (.012)	-.0009 (.013)
Work Hours		-.012 (.010)	-.014 (.011)			.016 (.011)	.012 (.011)
Parental Depression			.002 (.005)				-.008 (.005)
Hostile Ineffective Parenting			.052** (.007)				.069** (.007)
Family Dysfunctioning			.003 (.005)				.012* (.005)
	DF = 9; R^2 .268 Valid Cases: 4041	DF = 12; R^2 .272 Valid Cases: 4002	DF = 15; R^2 .283 Valid Cases: 3902		DF = 10; R^2 .327 Valid Cases: 3806	DF = 13; R^2 .329 Valid Cases: 3780	DF = 16; R^2 .349 Valid Cases: 3622

[a] Reference Category: Two Biological Parents (stable) ; b Too few cases in this category for estimation;
c For period 1994 to 1996, independent variable measure is 1994 while for period 1996 to1999, independent variable measure is 1996. ** Coefficients significant at alpha of .01. * Coefficients significant at alpha of .05.

5.3.3 Injuries

None of the family structure variables were significant for the baseline model for the period 1994 to 1996 and for 1996 to 1998. Girls were less likely to have been injured than boys in the last twelve months and this was consistent for both time periods and for all three models. Adding the economic resources variables resulted in a significant positive effect for stable stepparents but only for the 1994 to 1996 time period. Children in this family structure category were 1.64 times more likely to have been injured in the last twelve months than children raised by both biological parents. Parent's education however was now significant and in the positive direction, showing that a one year increase in parent's education resulted in a 9.6 percent chance of being injured in the last twelve months. The family process model did not reduce the coefficient for the stable stepparent for 1994 to 1996. An increase in the child's age resulted in the likelihood of being injured by about 10 percent for both time periods. Household income reduced the chances of the child being injured by about 20 percent but only for the 1994 to 1996 time period. The family process variables were significant only for the 1996 to 1998 time period such that a one unit increase in parental depression and hostile ineffective parenting reduced the likelihood of being injured by 2 percent and 3.5 percent respectively.

Table 5.3: Injuries (Estimated Logit Coefficients)[31]

Independent Variable	**1994 to 1996**				**1996 to 1999**		
	Model 1 Baseline Model	**Model 2 Economic Resources Model**	**Model 3 Family Process Model**		**Model 1 Baseline Model**	**Model 2 Economic Resources Model**	**Model 3 Family Process Model**
Constant	-.2099 (.423)	-1.194 (1.051)	-.779 (1.109)		-2.179 (.464)	-2.293 (1.032)	-3.595 (1.115)
Injuries[c]	.377* (.157)	.372** (.157)	.311* (.161)		.677** (.142)	.691** (.143)	.680** (.142)
Single-Parent (stable)[a]	.100 (.160)	-.005 (.183)	-.033 (.190)		..009 (.161)	.011 (.182)	-.129 (.194)
Step-Parent (stable)	.429 (.253)	.495* (.254)	.498* (.255)		.336 (.265)	.350 (.266)	.202 (.282)
Biological Parent to Single-Parent	.127 (.287)	.104 (.290)	.065 (.295)		.135 (.287)	.120 (.288)	.080 (.294)
Step-Parent to Single-Parent	b	b	b		-.537 (.608)	-.641 (.651)	-.491 (.657)
Single-Parent to Step-Parent	-.330 (.417)	-.437 (.427)	-.470 (.428)		-.679 (.416	-.692 (.423)	-.610 (.427)
Gender 1 = Females	-.599** (.111)	-.599** (.112)	-.576** (.114)		-.360** (.103)	-.343** (.104)	-.298** (.106)
Number of Siblings	.018 (.055)	-.029 (.057)	-.027 (.057)		-.079 (.052)	-.054 (.053)	-.055 (.055)
Child's Age	.065 (.049)	.082 (.050)	.098* (.050)		.087 (.046)	.087 (.046)	.110* (.048)
PMK's Age	-.009 (.011)	-.011 (.011)	-.011 (.012)		-.009 (.010)	-.013 (.010)	-.011 (.011)
Household Income		-.183 (.106)	-.216* (.110)			-.044 (.100)	.016 (.106)
PMK's Education		.091** (.028)	.091** (.028)			.045 (.027)	.049 (.028)
Work Hours		-.026 (.023)	-.020 (.023)			.029 (.023)	.028 (.024)
Parental Depression			.012 (.011)				.020* (.010)
Hostile Ineffective Parenting			-.016 (.015)				.034* (.014)
Family Dysfunctioning			-.009 (.011)				-.004 (.011)
	DF = 9; χ^2 = 42.879 Valid Cases: 4223 -2 Log Likelihood: 2525.935	DF = 12; χ^2 = 55.793 Valid Cases: 4101 -2 Log Likelihood: 2491.641	DF = 15; χ^2 = 54.208 Valid Cases: 4001 -2 Log Likelihood: 2440.600		DF = 9; χ^2 = 49.77 Valid Cases: 3956 -2 Log Likelihood: 2739.969	DF = 13; χ^2 = 55.525 Valid Cases: 3931 -2 Log Likelihood: 2715.265	DF = 16; χ^2 = 62.819 Valid Cases: 3762 -2 Log Likelihood: 2582.436

5.3.4 Destructive Behaviour

The baseline model for the period 1994 to 1996 shows that all the family structure variables are significant, with the exception of change from single-parent to stepparent. Boys had a greater propensity to engage in destructive behaviours than girls and this was significant for all models for the 1994 to 1996 and for 1996 to 1998 time period. Number of siblings was also associated with higher levels of destructive behaviour for all three models but only for the first time period. An additional sibling increased the odds of engaging in destructive behaviour by about 9.5%. The second time period 1996 to 1998 did not reduce the likelihood of the destructive behaviour score with the exception of stable single-parent. All the other variables remained significant and in the positive direction. Children who changed from a biological to a single-parent household were 2.29 times for 1994 to 1996 and 2.055 times for 1996 to 1998 more likely to display destructive behaviours than children raised by stable biological parents. The other noteworthy finding is that children who changed from a single-parent to a stepparent household between the second and the third waves (1996 to 1998) had a greater propensity to engage in destructive behaviours than children from a stable two-parent (biological parents) family. Though not statistically significant, the change from stepparent to single-parent was also in the same magnitude as the change from single-parent to stepparent category, and the pattern is observed for both the economic resources and the family process models.

The economic resources variables accounted for some of the effects of the family structure variables. The baseline estimate (b=.319) of the stable single-parent category was statistically significant but with the addition of economic resources, its effects were no longer significant. The results for the stable stepparent category remained the same for both time periods. Children raised by stepparents are 1.5 times and 2 times more likely to exhibit destructive behaviours for 1994-1996 and 1996-1998 respectively. Consistent with other outcomes, the move from biological parent to single-parent families also showed the greatest effect (b=.795 for 1994 to 1996; b=.688 for 1996 to 1998). The socioeconomic and demographic variables effects were similar to the baseline model estimates. The exception however is child's age. Unlike the original estimate in the 1996 to 1998 period, this effect was now statistically significant (b= -.065). An increase in household income reduced the propensity for destructive behaviours by 14% for 1994 to 1996 and almost 24% for 1996 to 1998. It should also be noted that an increase in work hours resulted in an increase in this behaviour by 5.3% for 1994 to 1996 but this effect was not significant for the second to third wave of the study.

Adding the family process variables accounted for the stepparent effect for 1994 to 1996. However, its effect for 1996 to 1998 was significant, showing that children from this family were 1.84 times more likely to be involve in destructive type activities than children raised by both biological parents. The change from biological parents to single-parent for both time periods continued to have a significant positive effect on this outcome. The movement from a single-parent to a stepparent family also increased the risk for destructive outcomes by 63% for 1996 to 1998. Child's age, which was previously significant in the baseline and economic resource model for the first time period was no longer significant in the process model. It should be noted however that the magnitude of the coefficient does not drop that much as the previous models. It is also significant for the 1996 to 1998 period (b= -.069). Consistent with the economic resource model, household income retained its significant negative effect (b= -.198 for 1994 to 1996; b= -.303 for 1996 to 1998) while work hours had a positive effect only for 1994 to 1996 (b= .041). Parental depression had a significant negative effect for 1996 to 1998 though its effect was quite small (b=-.018) to substantiate any real effect. Ineffective parenting, on the other hand, increased the propensity for destructive behaviours by about 12% between 1994 and 1996 and 9% between 1996 and 1998.

Table 5.4: Destructive Behaviours (Estimated Logit Coefficients)

Independent Variable	1994 to 1996				1996 to 1999		
	Model 1 Baseline Model	Model 2 Economic Resources Model	Model 3 Family Process Model		Model 1 Baseline Model	Model 2 Economic Resources Model	Model 3 Family Process Model
Constant	.313 (.280)	1.875 (.701)	1.195 (.743)		1.090 (.339)	4.063 (.767)	3.601 (.818)
Property Offences[c]	1.530** (.070)	1.509** (.071)	1.290** (.075)		1.666** (.073)	1.671** (.074)	1.478** (.079)
Single-Parent (stable)[a]	.319** (.105)	.200 (.119)	.122 (.127)		.224 (.117)	-.006 (.132)	-.028 (.139)
Step-Parent (stable)	.427* (.189)	.419* (.191)	.319 (.195)		.719** (.223)	.687** (.223)	.607** (.231)
Biological Parent to Single-Parent	.832** (.194)	.795** (.195)	.959** (.201)		.720** (.210)	.688** (.212)	.652** (.217)
Step-Parent to Single-Parent	b	b	b		.608 (.371)	.397 (.382)	.425 (.417)
Single-Parent to Step-Parent	.392 (.241)	.273 (.249)	.187 (.258)		.699* (.229)	.486* (.236)	.489* (.243)
Gender 1 = Females	-.320** (.069)	-.309** (.069)	-.238** (.072)		-.433** (.073)	-.427** (.074)	-.387** (.076)
Number of Siblings	.091** (.034)	.107** (.035)	.075* (.036)		-.012 (.036)	-.011 (.036)	-.040 (.038)
Child's Age	-.060* (.031)	-.067* (.032)	-.061 (.033)		-.051 (.033)	-.065* (.033)	-.069* (.035)
PMK's Age	-.028** (.007)	-.024** (.007)	-.019* (.008)		-.047** (.007)	-.036** (.007)	-.027** (.008)
Household Income		-.141* (.069)	-.185* (.073)			-.266** (.074)	-.303** (.077)
PMK's Education		-.028 (.018)	-.027 (.018)			-.037 (.020)	-.035 (.021)
Work Hours		.051** (.015)	.041** (.015)			.019 (.016)	.014 (.017)
Parental Depression			.010 (.008)				-.018* (.008)
Hostile Ineffective Parenting			.114** (.010)				.084** (.011)
Family Dysfunctioning			-.002 (.007)				.005 (.008)
	DF = 9; χ^2 = 693.692 Valid Cases: 4143 -2 Log Likelihood: 4929.870	DF = 12; χ^2 = 698.752 Valid Cases: 4087 -2 Log Likelihood: 4870.236	DF = 15; χ^2 = 827.584 Valid Cases: 3991 -2 Log Likelihood: 4599.730		DF = 10; χ^2 = 795.987 Valid Cases: 3933 -2 Log Likelihood: 4457.456	DF = 13; χ^2 = 814.875 Valid Cases: 3908 -2 Log Likelihood: 4403.341	DF = 16; χ^2 = 805.587 Valid Cases: 3742 -2 Log Likelihood: 4183.816

5.4 Discussion

These analyses allowed us to uncover important family structure differences on child outcomes over time. The importance of the family structure variables is that it disentangles the effects of stable family structures for example, stable single parent families that did not experience family change versus families that experienced change i.e. change from biological parents to single parents. It can then be assessed whether it is recent change or structure per se that contribute to adverse health risks for children. It also allowed a more detailed assessment as to which health outcome was more sensitive to family structure changes.

Family structure effects were quite apparent among the two outcomes, emotional disorder and destructive behaviours. The analyses demonstrated that the greatest magnitude of detrimental effects on children's outcomes resulted from the change from both biological parents to a single-parent household. Even when the economic resources and family processes were accounted for, the effects remained strong and significant. The exception was for injuries where it was not statistically significant for both time periods and physical aggression where it was only significant for the 1996 to 1998 time period. It appears that this change in family structure is quite traumatic for young children. This is consistent with previous studies that found divorce related stressful events were positively associated with children's internalizing and externalizing behaviours (Weyer and Sandler, 1998; Hanson et al. 1997b). The recent exit of one parent from the household contributes to the loss of elements that contribute to the emotional security of the child. These include not only financial aspects such as the loss of material comforts but also decreases in parent-child contact, parental supervision and support (Weiss and Willis, 1985). Parental divorce indeed can have severe consequences for the economic prosperity of mothers which then increases the propensity for hostile parenting. This ultimately contributes to children's depressed behaviours.

It was noted earlier that if family structure persists even when we account for economic resources and family processes, then structure per se is indeed an important determinant of children's well-being. But it is also important to keep in mind that family composition does change and is not expected to remain static over time. This recent change may eventually return to stability once families re-adjust to their new familial routines. At this point, this is difficult to ascertain because we are dealing with recent family transition and we can only trace its further developments over the next two years. It is therefore not possible to say whether these detrimental effects reflect short-term distress or whether they are expected to persist over time.

It was also determined that stable single-parent had negative consequences for children's outcomes, but this was more prominent for the 1994 to 1996 period. The magnitude of these effects were reduced as children progress over the next two years, from 1996 to 1998. Children who are in the stable single-parent category from 1996 to 1998 would include as well children who were in the stable single-parent category in 1994 to 1996 and those who experienced change from a two-parent to a single-parent household. We would have to conduct separate analyses (to be presented in Chapter 6) for families who remained stable from 1994 to 1996 and experienced change from 1996 to 1998. We can only capture this effect if we include the measure of family status from all three time periods.

Once we included the economic resources variables, the effects were no longer significant in the period 1996 to 1998 and this was consistent for emotional disorder, physical aggression and destructive behaviour. This confirms that the economic disadvantages of single-parent families account for the deleterious health risks of children from these family forms. Given that household income for single-parent families is slightly lower than that of two-parent families, it follows that children from these households are more likely to demonstrate problem behaviours in comparison to their two-parent family counterparts. As Rogers and Pryor (2001) note, the most significant financial disadvantage felt by families who breakup arises from the substantial drop in their income and the limited improvement from this drop in subsequent years. The stress associated with financial problems undoubtedly will contribute to family tensions as it increases parental distress. This may even be aggravated if the family is forced to move to poorer neighbourhoods and the lingering post-divorce conflicts between the ex-spouses. Such factors will contribute to lower levels of the child's health and well-being (Seltzer, 1998).

Children raised by stable stepparents also experienced adverse health risks but this was significant only for emotional disorder in the first time period. For destructive behaviours, this was significant for both time periods within the baseline and economic resources model and only for the first time period within the family process model. For injuries, the family process model showed a positive and significant effect for the period 1994 to 1996. The change from stepparent to single-parent was significant and in the negative direction only for physical aggression in the economic resources model and the family process model in the 1996 to 1998 time period. For other outcomes, the magnitude of the effects resemble those who changed from single-parent to stepparent category. This was apparent for the outcome destructive behaviours where its effects were only significant for change from single-parent to stepparent category. For other outcomes, both categories were not found to be statistically significant. The reason that one set is significant and the other are not may be because there is less variation in the stepparent to single-parent variable.

The structural complexity of a stepfamily is usually met with a great deal of confusion over the responsibilities of stepparents and stepchildren, resulting in a gap between expectations and behaviour (Kurdeck and Sinclair, 1986; Giles-Sims, 1984). As Cherlin (1978) notes, appropriate parenting styles on the part of the stepparent is a common problem for stepfamilies. These analyses cannot directly test for Cherlin's "incomplete institutionalization" hypothesis, given that it focussed mainly on the effects of parenting styles, family dysfunctioning and parental depression. The "incomplete institutionalization" hypothesis stresses the degree of conflict within remarriage families. Future analyses can focus on the levels of family conflict within stepfamilies and how they differ across different family structures to ultimately influence child outcomes.

The analyses revealed almost no family structure differences for injuries. The exception is that of the stable stepparent category where children in this family form are 64% more likely to be injured than children raised by both biological parents. It should also be noted that physical health relates to more stable and inherent characteristics of the child, and may not necessarily be affected by the mediating processes. Our analytic sample included children in the 4-11 year old age category, often known as the "middle years" (Seifert and Hoffnung, 1994). As noted earlier, children in their "middle years" may be at risk more for accidents and injuries especially among boys, as they explore their neighbourhood, their schools and the wider world around them (Wright et al. 1988; Garling and Valsinger, 1985).

Among the family process variables, we found that ineffective parenting was significant for emotional disorder, conduct disorder, injuries (only for 1996 to 1998), and destructive behaviours. For parental depression, it accounted modestly for the family structure differences for emotional disorder, injuries (1996 to 1998) and destructive behaviours (1996 to 1998). It was also determined that family dysfunctioning did not have a significant effect on any of the child outcomes. The exception was for the family process model for physical aggression, but its effect was still quite small to warrant any real influence. We expected that lack of family cohesion would be associated with behavioural problems. This is contrary to previous findings (Ontario Child Health Study) that find higher levels of family dysfunctioning to be associated with certain mental conditions in children. It should be noted that past studies have mainly been of a cross-sectional nature, unlike the analysis undertaken in this chapter where it was based on cross-lagged regressions.

5.5 Conclusion

The theoretical framework used for the analyses presented economic resources and family processes as mediating factors, by ascertaining the degree to which they explained the family structure effects on children. Earlier, the notion of *linked lives* and *social and economic capital* were introduced as a context for studying family transition. With the exception of injuries, the health outcomes (with varying degrees depending on the dependent variable of interest) showed that lack of economic resources at least for stable single-parent families was crucial in accounting for children's adverse health outcomes. Financial capital as represented by household income consistently demonstrated that it reduced the levels of emotional disorder, physical aggression and destructive behaviours. It is evident that children do benefit from families with more financial capital, as it translates to more positive child development.

However, financial capital is not enough to reduce some of the family structure effects on various outcomes. As noted earlier, children do not necessarily benefit from high human capital, if the social capital is low. Note that social capital parallels one of the themes in the life course framework, namely *linked lives*. The roles of parental depression, ineffective parenting and family dysfunctioning demonstrate the degree by which parents and children's lives are linked inextricably. Parents who are depressed cannot demonstrate warm, nurturing and supportive parenting styles to their children. This is evident in the outcome emotional disorder (1994 to 19996) whereby adding the family process variables reduced the stable single parent category to its non-significant effect. For destructive behaviours, adding the family process variables reduced the stable stepparent effect to a non-significant effect. The importance of parenting styles, the parent's state of health and even the degree of family dysfunctioning demonstrates to some level how parents and children's lives are linked interdependently. That children and parents do not live in isolation from one another. Rather, their circumstances, and their day to day interactions with one another play a crucial role in determining children's health outcomes.

Bronfenbrenner's chronosystem model was also introduced as a framework for understanding children's reaction to family transition. Children's response to family change will also be influenced by what their sense of the family is during particular stages of their life span development. Taking for example the effects of the change from biological parent to a single-parent family, the emotional disorder outcome was much stronger for the 1994 to 1996 period than the 1996 to 1998 time period. Children in the first time period would only have been 6 to 9 years of age at which their understanding of the family is not quite as concrete as the older sample (8 to 11 years old) in the 1996 to 1998 time period. Though children in the 1994 to 1996 sample may have a more sufficient understanding of family transition in comparison to pre-schoolers, they are still affected by the loss of concrete resources such as insufficient food and toys (Pryor and Rodgers, 2001; Galinsky, 1987). As a result, they experience feelings of sadness and anxiety over their parents' divorce or separation as indicative of their state of emotional disorder. However, for children in 1996 to 1998, outcomes characterized by "acting out behaviours" such as destructive behaviours and physical aggression played a more prominent role during this period of development and this is evident in the family structure effects for these two outcomes. At this stage of child development, children begin to nurture their own autonomy and to move away from monitoring and supervision. The early stages of stepfamily formation for example, alter the entire system of family relations requiring a period of adjustment. The older child may find it harder to accept the parental role of the stepparent. Concurrently, these gaps in parents' expectations and behaviours may result in greater family tensions contributing to the propensity to commit property offences. This is evident in the stable stepparent category in which the results remained strong and significant despite accounting for economic resources and family processes.

The *chronosystem model* also parallels Elder's theme surrounding the *timing and sequencing of events*. Panel data analyses provide the advantage of examining the effects of family structures on children's outcomes by highlighting the influence of time. This is demonstrated in the family change variables (such as the change from biological parent to a single-parent and the change from a single-parent to a stepparent family) that recent transitions are indeed detrimental to children's health. But as children progress over the time period, the initial shock of a breakup may eventually dissipate. We cannot directly test for this given that we focussed our analyses between two waves of data. To fully capture the impact of family change requires us to examine its influence across the three waves in one model. This includes looking at the measures of each variable of interest for each time period and how they in turn influence one another simultaneously. The analyses in this chapter revealed that household income, was more important than any of the family process variables in determining the family structure differences in children's health. It cannot be discounted that the relationships between these family processes are not mutually exclusive. If we account for the direct paths of these relationships, then we can arrive at a more comprehensive understanding of how economic resources and family processes act as mediators for family structure and children's health. The mediating processes also play an important role for the effects of family structure differences on child outcomes (Sprey, 2000; McLoyd, 1990; Bronfenbrenner, 1986). The challenge that Sprey (2000) brings forward is "how we conceptualize the onset, the direction, and the end of the social processes such as marriage and the family" (p. 23). The next chapter allows us to examine various issues pertaining to longitudinal analyses. One of the crucial issues pertains to the simultaneous relationships between family process and economic resources and family structures, that these relationships are indeed bi-directional. This allows further examination of how parental and child characteristics can also influence family transition over time. We explore these issues more in detail in Chapter 6.

Chapter 6
Analyzing Change in Two-Parent and Single-Parent Families

In Chapter 3, the theoretical framework presented children's health and well-being as influenced by family structure, economic resources and family processes. It also assumed a unidirectional causality, whereby children's health outcomes can only be affected by these processes and not vice versa. In the previous chapter, the independent variables at the previous wave of the study were utilized to ascertain their influence on children's health outcomes at the subsequent wave of the study. This chapter makes these assumptions as previously laid out in Chapter 3 and used to guide the analyses in Chapter 5. But equally important is to also investigate how children's health outcomes can also influence family processes and economic resources. Therefore, possible cross-lagged effects such as the effect of child emotional disorder at $t - 1$ and its effect on parental depression on time t will be examined further in this chapter. In addition to the cross-lagged effects, reciprocal effects will also be estimated within waves.

6.1 Extending the Theoretical Framework

The model to be presented here will differentiate two family types – two-parent and single-parent families. Family structure now acts as a possible moderating factor in which the economic resources and family processes are expected to affect parent's and children's health differently for these two groups. For example, we expect that household income will reduce parental depression for both types of families. Nevertheless, it is possible that the magnitude of this influence will differ between two-parent and single-parent families.

In this model, we follow the same families who were stable or did not experience change between waves one and two. Between waves two and three, the family status is brought into the analysis.[32] Specifically, we examine whether families remained stable across all three waves, or whether they experienced change between waves two and three. Change for two-parent families means movement to a single-parent status while change for single-parent families indicate movement into a two-parent status (either legal or common-law).

For families however who experienced change between waves one and two, we conduct a separate analysis for this group to be presented in Chapter 7. There are separate issues pertaining to families who changed between this time period, one of which is whether they remain stable or experience change again between waves two and three. These issues will be explored later in Chapter 7. The model to be presented in this chapter will focus on change that occurs between waves two and three, on the condition that they did not experience change between waves one and two. In this regard, we examine one of the important issues pertaining to family change, namely how children adapt to different transitions over time. Hence, transitions will be differentiated by family type. Two-parent families are at risk for changing into a single-parent family while single-parent families also stand a chance of changing into a two-parent family between the second and the third wave of the study.

We examine then whether change from a two-parent to a single-parent household versus change from a single-parent to a two-parent household is more detrimental to children's or to parent's health. We also take full advantage of the change analysis by moving now into a dynamic model where all the family process, economic resource and parent's and children's health are examined simultaneously. Therefore, all the variables of interest for all three waves will be estimated in the analysis. These include household income, parental depression and child emotional disorder. Another important factor to be considered is that different family members have different needs, and because family changes are expected to impact children's and parents' lives differently, we investigate how different transitions affect their health respectively. It is hypothesized that both types of family transitions will be detrimental to parents' and children's health.

There are different reasons why different transitions will incur detrimental effects on parents' and children's health. The movement from a single-parent family into a two-parent family may be economically beneficial for the previously single-parent as there is another source of household income to rely upon. At the same time however, the adjustment that stepfamilies must experience at least in the formative phase may result in a gap in expectations and behaviour, which may contribute to an increase in child depression. Given that some of the children in the sample experiencing change will be entering the early stages of adolescence, their developmental phase may indicate that they will find it harder to accept the parental role of a stepparent as it is also the time for exploring their sense of autonomy. The early stages then, of the stepfamily establishment may leave children vulnerable to marital conflict as stepfamilies generally have lower levels of family cohesion. Studies for example have found that psychological distress was higher among stepfamilies than original two-parent families (Bray and Berger, 1993).

The change from a two-parent to a single-parent household will also be adverse for both parents and children. As previously noted, while poor financial circumstances often precede marital dissolution, there is clear evidence of substantial drops in household income after the transition (Rodgers and Prior, 1998). Uncertainty about socioeconomic circumstances may threaten the emotional security of the child, which contributes to adverse health risks for children.

6.1.1 Stability Effects

We estimate the stability effects by including all measures at all three time points to determine the effects of each variable at a specified time period and its impact on the subsequent wave. Stability is defined as the regression of a variable measured at one occasion on the same variable measured at an earlier time point (for example, the slope of 1998 income on 1996 income). The use of stability scores is used to specify change where the effects of variables net of stability effect allow one to predict change. Several null hypothesis were tested in this model through various constraints. First, it was tested whether there were no lag-two effects. In the case of income we determine whether the slope of 1998 income on 1994 income is zero. Second, we constrained the two lag one effects for a particular variable to equal one another. For example, the slope of 1998 income on 1996 income was constrained to be equal to the slope of the 1996 income on 1994 income. Finally, we constrained all effects including the stability effects to be equal for the two groups of the two-parent and the single-parent families. In the case of income again, we constrained the slope of 1996 income on 1994 income to be the same for both two-parent and single-parent families. As we shall see in the presentation of the results, we had to relax many of these constraints and therefore estimate some of these effects separately.

6.1.2 Reciprocal Causation

The possibility of reciprocal causation is also tested in this analysis. The assumption of unidirectional causality is not tenable in this case, and our intent is to also examine the causal ordering between the variables of interest. This is done in two ways: One is estimated using cross-lagged regressions, by estimating the effect of one variable of interest at one time period on another variable at the subsequent time period (for example the effect of child depression at time one on parental depression at time 2, and the effect of parental depression at time 1 on child depression at time 2). Secondly, reciprocal effects are estimated simultaneously, by ascertaining the influence of the variables of interests within the same time period. For example, the effects of child depression at time two on parental depression at time two is estimated along with the influence of parental depression at time two on child depression at time two.

It is presumed that parental health will influence children's health, but in this analysis we test for whether children's health will also influence parental depression. One of the assertions of Elder's notion of linked lives (1994) is that children do not live in isolation from their parents. While parent's decisions and circumstances affect their children's lives, children are not passive actors in their own development. They also influence their parents' behaviours and interactions towards them through their own behavioural actions and rarely has the mutual influence between child emotional disorder and parental depression been investigated.

We also examine how one variable such as income leads to parental depression and vice versa. While we expect income to increase depression scores, we also anticipate parental depression to lead to a reduction in income. Moreover, the reciprocal causation model will allow us to explore the impact of family characteristics (such as parental depression) on family change. We ask for example, can parental health among single-parent families contribute or hinder the possibility of change to a two-parent family between the second and the third wave of the study? We hypothesize that individuals who score higher on the depression scale have a reduced likelihood of moving out of their current single-parent status.

Another mutually influencing relationship refers to income and family change. It is a pervasive belief that family change particularly that of two-parent to single-parent family leads to a reduction in family income. In contrast, economic deprivation is also expected to increase the risk of marital dissolution. The importance of the time ordering of events therefore will be demonstrated in this analysis. While we hypothesize the drop in household income to be a consequence of family change, we also expect income to be a contributor to family transition. It is also hypothesized that change from a single-parent to a two-parent household will result in an increase in household income.

6.2 Data and Methods

The same sample (as described in Chapter 4) is used for the longitudinal analysis. Unlike the previous chapter where we examined two waves at a time, we extend this analysis with the addition of the third wave. Family structure is conceptualized as either a two-parent or single-parent family. We analyze family change separately for these two groups and discern the causal mechanisms by which change affects parental and children's health. The family change status (Family Change 3 = 1) is conceptualized as whether any change (either from two-parent to single-parent or from single-parent to two-parent) occurred between waves two and three. Therefore, both types of families in these analyses were stable (no change occurred) between waves one and two. If family structure was stable at the third wave then no change occurred from 1994 to 1999. In other words, a single parent family can remain at their current single status across all three waves or experience change to a two-parent family status between waves two and three. In addition, information on children's outcomes was provided by the Person Most Knowledgeable (PMK) about the child, usually the mother.

6.3 Data Limitations

One of the important issues surrounding the study of children's outcomes pertains to the respondent. In this analysis, we relied on the Person Most Knowledgeable about the Child (PMK), usually the mother. It is well-established in the child development literature that when other informants are included in the analysis, there is generally a low correlation between the parent's report and the child's report, the teacher's assessment and the researcher's assessment (Achenbach, McConaughy and Howell, 1987). This general inconsistency may reflect the child's differential behaviour in different settings. The reliance mainly on the parent's report was to be consistent with the sets of questions asked specifically of the family process variables, such as parental depression and child emotional disorder at three time periods. At most, we could've compared the reports of the parent's to that of the child's at 10 to 11 years of age at the first wave and the second wave of the study. At the second wave, the children would be 12-13 years old. The analysis however is extended to the third wave of the study, at which there would not have been a basis of comparison between the parent and the child when the child is 14-15 years old.

The main focus of the analysis is also on family change. In this case, the analysis was limited to families that experienced change only between the second and the third wave of the study, but were stable between the first and the second wave. Table 6.1 shows that in this sample, the children experiencing change are also a little bit older (ages 8 to 11 years old) and hence the ages in which problems are more likely to be observed and where problems are more likely to affect the parent. A separate analysis is undertaken (see Chapter 7) for families who experienced change between waves one and two.

6.4 Structural Equation Modeling

We rely on structural equation modeling or SEM using Linear Structural Relations (LISREL) software (Joreskog and Sorbom, 1996; Hayduk, 1987). Structural equation modeling allows us to consider more than one equation simultaneously, such that one variable that is a regressor variable in one equation can be specified as a dependent variable in another (Cuttance and Ecob, 1987). This also allows us to impose equality constraints on selected coefficients across the two waves, for example the effects of parental depression at time 1 on income at time 2 as well as the influence of parental depression at time 2 on household income at time 3. The system of equations include multiple regression, path analysis, factor analysis, analysis of variance, simultaneous equation modeling.

6.4.1 Scaling and Reliability in LISREL

Scale equivalence was estimated by fixing the lambda (8) value to equal 1.0 for each concept. Thus, the structural coefficients between each concept and its indicator were fixed at 1.0 to ensure that each concept was measured on the same measurement scale as its indicator. This implies that a one-unit change in the concept will result in an equivalent unit change in its corresponding indicator.

6.4.2 Model Estimation

Covariance matrices were created using the listwise deletion of missing cases. The model was estimated using maximum likelihood estimation and the model fit was estimated by assessing the adjusted goodness of fit (AGFI) index, and the size and patterns of the modification indices. A model is considered to be a good fitting model if its AGFI is greater than .96 and its root mean square error of approximation (RMSEA) is less than .05 (Hayduk, 1987).[33] The model fit was estimated to have a RMSEA of .016, noting that the model has a close fit with the data.[34]

A stacked LISREL analysis was employed by splitting the two-parent and the single-parent groups. This required two input covariance matrices for each of the two groups. As Hayduk notes, "stacking groups together allows some of the effect coefficients to be constrained to be equal between the groups while other coefficients vary between the groups." (Hayduk, 1987: p. 277). Substantively, we can examine if family change is more detrimental from two-parent to single-parent or if the change occurred from single-parent to a two-parent family.

We first imposed equality constraints on both the two-parent and single-parent groups, based on the assumption of no difference between the two groups. This provides fewer parameters to be estimated and more degrees of freedom which may be used for other purposes. Other equality constraints were also imposed on stability coefficients, cross-lagged effects and the simultaneous effects. For the stability effects, this entailed constraining the effects to be equal between time one and time two and between time two and time three. The lag-two stability coefficients were set to be equal to zero on the grounds that a "first-order" autoregressive process is more parsimonious. Moreover, the equality constraints were initially imposed on the cross-lagged effects. For example, the effect of child emotional disorder at time one on parental depression at time 2 were initially constrained to be equal to the effect of parental depression at time 1 on child emotional disorder at time 2. The same process was repeated for the effects between parental depression and income, child emotional disorder and income, family change and child emotional disorder, family change and parental depression, and family change and income.

After careful assessment of the modification indices, we allowed some parameters to be free and compared the improvement of the fit of the model with the previous one before its specified modification. These included the addition of the simultaneous effects (reciprocal effects within waves) between certain variables of interests such as child emotional disorder and parental depression, income and child emotional disorder, parental depression and income and family change at time 3 and income at time 3. In addition, the model was also modified to include the effects of certain variables at time 1 on time 3 variables. These include for example the influence of income at time 1 on parental depression at time 3 and the effects of parental depression at time 1 on income at time 3.

6.5 Analyses and Results

Table 6.1 presents the cross-tabulation results of the type of families that experienced change from waves two and three. There were a total of 3187 two-parent families and 510 single-parent families that remained stable between 1994 and 1996. Between 1996 and 1998, we note some changes, whereby 144 families experienced changed from a two-parent to a single-parent family. A total of 101 single-parent families changed into two-parent families between this time period. There were still a significant number of families that remained stable throughout the three time periods. A total of 3043 two-parent families and 409 single-parent families remained in the same family status across the three waves.

Table 6.1 Number of Single-Parent and Two-Parent Families and their Family Status for Each Time Period

Family Status in 1994 – 1996 (Wave 1 and 2)	**Family Status in 1998 – 1999 (3^{rd} Wave)**	
Two-Parent Families in both waves one and two (No change) 3187	**Two-Parent Families in waves one and two (No change)** 3043 (95.5%)	**Single-Parent Families between waves two and three (Change at Wave 3)** 144 (4.5%)
Singe-Parent Families in both waves one and two (No Change) 510	**Single-Parent Families in waves one and two (No change)** 409 (80.2%)	**Two-Parent Families between waves two and three (Change at Wave 3)** 101 (20%)
Total Number of Families: 3697	**Total Number of Families:** 3452	**Total Number of Families:** 245

Tables 6.2, 6.3, 6.4 and 6.5 present the structural equation modeling results for the two-parent and single-parent groups. For ease of interpretation and readability, separate tables were constructed for each of the relationships. For example, table 6.2 represent the stability coefficients, while table 6.3 denote the relationships between parental depression and child emotional disorder. Table 6.4 represent the relationships between parental depression and income as well as the relationships between income and family change. Finally, table 6.5 shows the relationship between family change, parental depression and child emotional disorder. Note that the results for the single-parent group are presented in bold and this applies for all tables. The dependent variables are presented in the rows while the independent variables are presented in the columns. The unstandardized coefficients are presented in these tables while the standard errors are displayed in parentheses. The significance level is set at the .01 level. The measures are represented with their specified time periods; for example CD1 CD2 CD3 represent the child outcome emotional disorder for waves one, two, and three respectively. Likewise, PD1, PD2, PD3 are three measures for parental depression, while IN1, IN2, IN3 are the three time measures for household income.[35] The family status variable is represented by Family Change 3. For the two-parent group, this demonstrates families that changed to a single-parent family status between periods two and three. For the single-parent group this represents families that changed to a two-parent family status.

6.5.1 Stability Effects

The stability effects (Table 6.2) are significant and imposition of the equality constraints is evident in the two-parent families groups for the child emotional disorder. The effects of income at time one on time two were also imposed to be equal between the two-parent and the single-parent groups. As mentioned earlier, the second order stability coefficients were introduced after assessment of the modification indices noted an improvement of the fit of the model. Hence, stability coefficients were also estimated for time one and time three effects.

Table 6.2: Stability Effects of Two-Parent and Single-Parent Families

	Child Disorder			*Parental Depression*			*Household Income*		
	CD1	**CD2**	**CD3**	**PD1**	**PD2**	**PD3**	**IN1**	**IN2**	**IN3**
CD3	.24** (.02) **.34**** **(.02)**	.45** (.01) **.42**** **(.02)**							
PD2				.30** (.01) **.40**** **(.01)**					
PD3				.22** (.02) **.07**** **(.02)**	.30** (.01) **.40**** **(.01)**				
IN2							.73** (.01) **.73**** **(.01)**	.48** (.01) **.48**** **(.01)**	
IN3							.33** (.01) **.22**** **(.02)**		
R^2	.06 **.11**	.24 **.29**	.34 **.42**	.02 **.02**	.13 **.36**	.25 **.26**	.01 **.02**	.59 **.56**	.62 **.67**

R^2 for Family Change 3: .02/**-.05**

In these and subsequent tables: bolded items are for the single-parent group

Goodness of fit statistics: Contribution to Chi-Square: 53.60/**26.99**

Degrees of Freedom: 46; Minimum Fit Function Chi-Square: 80.59 (P=.0012)/**80.59 (P = .0012)**

Comparative Fit Index: (CFI) = 1.00/**1.00**

Goodness of Fit Index: (GFI) = 1.00/**1.00**

Root Mean Square Error of Approximation (RMSEA) = .016; **.016**

** significant at the .01 level.

Results are unstandardized coefficients while standard errors are displayed in parentheses.

6.5.2 The Effects of Parental Depression on Child Emotional Disorder

Table 6.3 shows that out of possible 12 effects, six were significant and all were positive. In this model, it is assumed that an increase in parental depression increases child emotional disorder. There are two contemporaneous effects: one was for time 1 and which was constrained to be equal between the two-parent and the single-parent groups. (b=.12); the other was for time two and only for the two-parent group (b = .06). The cross-lagged effects are evident in the two-parent group, beginning with the effects of time one on time two and time two on time three (b=.03). For single-parent families, the cross-lagged effect was significant only from time 2 to time 3 (b = .02)

6.5.3 The Effects of Child Emotional Disorder on Parental Depression

Table 6.3 shows that out of the twelve possible effects of parental depression on child emotional six were significant and all were in the positive direction. That is, an increase in child emotional disorder produces an increase in parental depression. More important, in all cases, the effect of child emotional disorder on parental depression was stronger than the effects of parental depression on child emotional disorder. The contemporaneous effects were evident for both groups at time two (b = .10 for the two-parent group and b = .26 for the single-parent group) and time three (b = .30 for the two-parent group and b = .65 for the single-parent group). There are no equality constraints among these contemporaneous effects. These effects were stronger for the single-parent groups and the wave-three effects were stronger than the wave two effects for both groups.

The cross-lagged effects are evident for both groups, but two cross-lagged effects are noted for the two-parent group (b = .10 from time one to two and from time two to time three). The effects for two-parent families also equal the contemporaneous effect at wave two. These effects were smaller than the cross-lagged effect and the other two within-wave effects (time 2 and time 3) for the single-parent group. For the single-parent group, there was only one cross-lagged effect from time one to time two (b = .19). From these findings, it is evident that children's psychological health has a significant influence on parent's health particularly for single-parent families.

A pattern emerges from the data in which both parental depression and child emotional disorder influence one another. Surprisingly, the effect of parental depression on child disorder was not as great in magnitude as the influence of child disorder on parental depression at least for the single-parent group for time 3. It should be noted that the scale for the child disorder variable ranges only from 0 to 16, whereas parental depression ranges from 0 to 36, which may explain the rather small effect. When examining the effect of parental depression at time 1 on child disorder at time 1 for both groups, the effect was only .12. But when examining the standardized effects (not shown in the table, but provided from the LISREL output) the effect is .24. So children whose emotional disorder score is one standard deviation above another's score is predicted to have a parental depression score that is .24 units above that of the other's depression score.

Indeed, past studies have pointed to the negative influence of parents' depressed state on children's health, but rarely has the reciprocal effects been examined simultaneously. Here, it is obvious that the results of child disorder on parental depression are greater for the single-parent group but only for time 3. Initially it was found that this effect was .65 but after examining the standardized effects this effect is only .30 Still, it represented the greatest magnitude out of all the coefficients between the relation of child disorder and parental depression. A limitation of the data should be mentioned again where these results, including the child depression is based on the parents' reports usually the mother.

Table 6.3 Relationship between Child Emotional Disorder and Parental Depression

	Child Disorder			*Parental Depression*		
	CD1	**CD2**	**CD3**	**PD1**	**PD2**	**PD3**
CD1				.12** (.02) **.12**** **(.01)**		
CD2				.03** (.01)	.06** (.01)	
CD3					.03** (.01) **.02**** **(.01)**	
PD1						
PD2	.10** (.02) **.19**** **(.04)**	.10** (.02) **.26**** **(.04)**				
PD3		.10** (.02)	.30** (.02) **.65**** **(.04)**			

6.5.4 The Influence of Income on Child Emotional Disorder and Parental Depression

It is evident from Table 6.4 that the influence of income on child emotional disorder was significant only for the single-parent group. The cross-lagged effects from time one to time two (b = -.46) and from time 1 to time 3 (-1.53) were in the negative direction showing that an increase in household income reduced child's emotional disorder. The contemporaneous effects however for wave three and another cross-lagged effect from time 2 to time 3 were in the positive direction noting that greater household income increases child emotional disorder (b = .88). These positive effects could be an artifact of other specifications in the cross-lagged model, but another study using a different methodology, namely conditional change or static score model (Finkel, 1995) also found similar effects of income on child outcomes (Baiser, Hou, Kaspar and Nou, 2000). Using the same data set and employing longitudinal analysis, the authors found that absolute increases in income resulted in an increase in child's behavioural problems.

Where income has different effects on children's health, depending on the time period, the influence of income on parental depression was in the negative direction regardless of whether the effects are within waves or whether they are long term (from time one to time three). For two-parent families, the effects are shown for within waves. Income reduced parental depression during the first and the second time periods (b = -.69 for time one; b = -.55 for time two). For single-parent families, the reduction in parental depression was almost twice the magnitude as that of two-parent families. Its cross-lagged effect from time 1 to time 3 reduced depression by –1.53; in addition the within waves effects showed further reduction in parental depression (b = -.91 for time one; b = -1.90 for time two; b = -.86 for time three).

6.5.5 The Effects of Parental Depression on Income and the Influence of Income on Family Change

We can see from Table 6.4 that equality constraints were imposed on the two-groups both within waves and its cross-lagged effects (b = -.007). A one-unit increase in parental depression reduced household income by 1 percent; additionally, a 10 unit in increase in the depression score is interpreted as a 10 percent reduction in household income. As one moves up the depression scale (from 0 to 36), its effect on income becomes more noticeable. For example, an increase in the depression score from 7 to 28 denotes an increase of 21 units, and this translates to a reduction in household income by 21*.99 = 20 percent. Child emotional disorder did not influence income for both two-parent and single-parent groups.

Income at time 2 affects family change at time 3 for two-parent families. Families who have higher levels of household income have a reduced likelihood of moving into a single-parent status at time 3 and this is particularly so for families in the low income range. The magnitude of income must be substantially increased or at least be doubled to have any substantial effect on change in family status as one moves from one unit of logged income to the next. At the low end of the income scale, an increase in household income from $20,000.00/year to $40,000.00/year, denotes a substantial increase in a sense that the family's economic resources has doubled. But for families who are already in the $60,000 range, a $20,000 increase does not indicate a substantial improvement in one's standard of living in comparison to those in the low-income range. One would have to increase their resources from $60,000.00 to $120,000.00 in order substantiate any real difference in improvements in their standards of living.

Table 6.4 Relationship between Income and Child Emotional Disorder, Parental Depression and Family Change

	Child Disorder			*Parental Depression*			*Household Income*		
	CD1	**CD2**	**CD3**	**PD1**	**PD2**	**PD3**	**IN1**	**IN2**	**IN3**
CD2							**-.46** (.08)**		
CD3							**-1.53** (.12)**	**.88** (.07)**	**.88** (.07)**
PD1							-.69** (.16) **-.91** (.28)**		
PD2								-.55** (.15) **-1.90** (.18)**	
PD3							**-1.57** (.25)**		**-.86** (.28)**
IN1				-.007** (.0006) **-.007** (.0006)**					
IN2				-.007** (.0006) **-.007** (.0006)**					
IN3				**-.007** (.0006)**	-.007** (.0006) **-.007** (.0006)**				
Family Change 3								-.02** (.01)	

6.5.6 Family Change and Parental and Children's Health

The necessity for a stacked LISREL model was to ascertain any differences between the two groups. So for family change, we determine whether change from a two-parent to a single-parent family is more detrimental than change from a single-parent to a two-parent family. Note that for two-parent families, we determine whether any movement from two parent to single-parent household (*Family Change 3*) occurred between the second and the third wave of the study. For the single-parent group, this denotes movement into a two-parent family.

Table 6.5 shows that for two-parent families, the change from a two-parent to a single-parent family increased child emotional disorder (b = .50), while its effect on parental health was even more detrimental. Family change increased parental depression by 3.28. Change for this group also resulted in a drop in household income by about 52 percent (b = -.65).

For single-parent families, change into a two-parent household increased child disorder, although its result was not statistically significant. The influence however of family change on parental depression was in the positive direction showing that single-parents who remarry or changed into a two-parent household experience a rise in their depression levels (b = 5.77). Unlike child emotional disorder, the effect of family change on parental depression was statistically significant. These same families also experienced an increase in their household income by about 73 percent (b = .55). Indeed, the presence of a potential earner in the family can be advantageous in that it can increase the parent's purchasing power that otherwise may have been non-existent in a single-parent household. At the same time however, the parent has to make major adjustments, especially the integration of the stepparent or even stepchildren in the family, along with new parental responsibilities. It is not surprising then that while the intent is to improve overall their economic status, it would also be a stressful time for such adjustments. As a result, remarriage may be detrimental for the parent at least for the short time period.

6.5.7 How Parental and Children's Characteristics Affect Family Change

Table 6.5 shows whether parents' or children's characteristics influence family change. This allows us to examine for example whether parental depression contributes to the single-parent's inability to move out of their current family status. Cross-lagged effects are noted for the influence of child disorder and parental depression at time 2 on family change at time 3. A 10 unit increase in the level of depression indicated a 4% increased risk of changing into a single-parent family.

For single-parent families, we note parent's and children's health and its influence on family change. It is evident that if the parent or the child was depressed, then the family was unable to move out of their single-parent status. The cross-lagged effect is noted for child disorder at time 1 and its effect on family change at time 3 while for parental depression a contemporaneous effect is shown for time 3. A one-unit increase in child disorder or parental depression reduces the likelihood of single-parents moving into a two-parent status by 3 percent. Likewise, a 10 unit increase in the depression scores for both parents and children reduces the likelihood of changing into a two-parent family by 30%.

Table 6.5: Relationship between Family Change and Child Emotional Disorder, Parental Depression and Household Income

	Child Emotional Disorder			*Parental Depression*			*Family Change*
	CD1	**CD2**	**CD 3**	**PD1**	**PD2**	**PD3**	**Family Change 3 1 = change**
CD3							.50** (.20) **.02** **(.12)**
PD3							3.28** (.42) **5.77**** **(.42)**
IN3							-.65** (.03) **.55**** **(.42)**
IN2							
Family Change 3	**-.03**** **(.001)**	.0004** (.0006)			.0004** (.0006)	**-.03**** **(.001)**	

6.6 Discussion

This analysis allowed us to examine a number of issues pertaining to family change. First, we explored how economic resources and family processes influence child's emotional disorder. The influence of parental depression on child disorder was modest for both types of families. Surprisingly however, the reciprocal relationship demonstrated that children who are depressed in single-parent families affect parental depression significantly. The magnitude of the effect also increased with each subsequent wave, with the greatest effect observed for time 3. This reveals the importance of examining the bi-directional relationships between parents' and children's characteristics. A vast array of studies has consistently demonstrated the adverse effects of parents' depressed state on children's health, but rarely has this mutual influence been examined. What has emerged from these findings is that at least from the parent's reports, child disorder had a more adverse effect on parental depression than parental depression's influence on child disorder but only for the third wave.

It cannot be discounted that because the study has relied on the parent's report and where over 90% of the cases the primary caregiver is the mother, a bias may exist in favour of the mother reporting. As a consequence, the child's point of view has been left out in light of these findings. On the other hand, one set of findings (the effect of parental depression on income) point to the validity of the mother's report on the child depression. If it was merely the mother projecting her depression on the child's health, then the influence of parental depression on income should be the same as that of child disorder to income. But in fact, there was no effect found for child depression on household income. One can make the argument then that the mother's report on her child's health represents a valid assessment, and not so much confounded by her own assessment of her own depressed state.

A more substantive interpretation is also possible. Children may display behavioural patterns and characteristics that make them more or less difficult to care for which in turn determine the development of parent-child relations (Lerner and Lerner, 1983). In particular, single-parent families face greater challenges and frustrations that stem from the efforts to generate income and reduce family consumption which further contribute to their psychological distress (Conger et al. 1992). This leads to a reduction in the quality of interaction between the parents and children, which then leads to adverse health risks for the health and well-being of children. Consequently, this contributes to further emotional distress among the parents.

The influence of income affected parents and children differently. For parents, income contributed to positive health outcomes, regardless of whether they are in two-parent or single-parent households. The difference however, is that single-parents benefited more than two-parent families. These findings are in keeping with past studies that find low income to be associated with increased risk of parental depression. If single mothers are indeed at great risk for a variety of mental problems including anxiety and depression, then much of this can be attributed to the financial hardship that they often face including inability to pay bills, rent or even providing the resources necessary for the healthy development of their children (Hope et al. 1999).

The influence of income on child disorder present surprising findings. It was expected that income would reduce child depression regardless of whether it is within waves or across waves. For children in two-parent families, income did not have a significant effect on child disorder. However, children from single-parent families benefited immensely from greater economic resources, at least in the long term (from time one to time three). Its contemporaneous effects however for time 3 was positive, along with a cross-lagged effect from time 2 to time 3. There are two possible interpretations here. One is that these findings are an artifact that is due to model misspecification or collinearity. A more substantive explanation focuses on the family process involved due to an increase in economic resources for single-parents. Referring to Adams and Ryan (2000) longitudinal study using the same data to examine the role of socioeconomic status and parenting styles, the authors found that at least from wave one to wave two, higher socioeconomic status for one-parent families was associated with lower levels of positive parenting and higher levels of ineffective parenting. They posit that an increase in economic standing resulted in added stress to the family that in turn trigger difficulties in carrying out parenting tasks. Their findings echo the pattern that emerges from these findings. It appears that resources that allow for the purchase of health, food, housing, education and other goods and services contribute to the healthy development of children. At the same time however, single-parent households must spend a considerable time in the paid labour force, at the cost of spending less quality time with their children. It is not surprising then, that at least in the short term (as determined by the effects within waves), greater household income does not necessarily translate to positive outcomes for children.

The importance of utilizing structural equation modeling is that it allowed us to take advantage of examining the impact of family change on parent's and children's health between the two groups. Family change indeed represents a major stressor in parents' and children's lives, but as well as other changes depending on whether it is change from a two-parent to a single-parent household or change from a single-parent to a two-parent household. It cannot be assumed that change is necessarily detrimental for all types of families. Indeed, the experiences of children from one family type are expected to differ from another group.

It is clear that change from a two-parent to a single-parent family resulted in greater levels of depression for both the parents and the children. The magnitude of this effect was greater for parents than it was for children. A substantial drop in household income was also observed due to this change. People exposed to a number of life events such as divorce experience more emotional problems (Ross et al. 1998). Indeed, single parents are at greater risk for a variety of mental health problems including anxiety, depression and other psychosomatic problems (Guttentag et al. 1980). Families must now make major adjustments especially with only one income earner in the household. This may also be triggered by further disruption in the household routines that can range from residential moves, changes in the mother's employment, and childcare arrangements which in turn lead to anxiety, depression and disruptive behaviour (Wallerstein and Kelley, 1980). The findings that emerge from the analysis are in keeping with other studies that found the greatest adverse effects for both parents and children occur with the recent exit of one of the parents from the household (Mott et al. 1997).

But family change can also be beneficial at least for single-parent families, particularly where it involves economic resources. The findings show that change from a single-parent to a two-parent household improved overall household income. It was anticipated that adjustments into a stepparent household would be detrimental for children's health. However, the findings indicate that parents suffer from the emotional distress more so than their children do. Unexpectedly, these findings did not show a statistical significant effect for child emotional disorder. Cherlin (1978) has noted that one of the problems facing stepfamilies is appropriate parenting styles on the part of the stepparent. Furthermore, the structural complexity of a stepfamily is met with a great deal of confusion over the responsibilities of stepparents and stepchildren, resulting in a gap between expectations and behaviour (Kurdeck and Sinclair, 1986; Giles-Sims, 1984). Although the study cannot test directly for the degree of conflict in remarriage families, it is clear that these adjustments contribute to the parent's depressed behaviour.

The analysis focussed only on families that experienced change between the second and third wave of the study. Therefore, the impact of change reflects mainly what has occurred recently. At this point, it cannot be determined whether the detrimental effects will be reduced with the passage of time. The next chapter will examine whether families that changed between waves one and two are likely to remain stable between waves two and three. Moreover, families that undergo transition at every wave, and are therefore unstable, may have their own unique characteristics that distinguish them from families in this particular analysis. Furthermore, it was determined that change mainly occurred between 1996 and 1999, when the children in the sample are a little bit older. The next chapter demonstrates change that occurs earlier in a child's life when they are between the ages 4 to 7 years old. Finally, the structural equation modeling allowed us to examine the parent's and the child's characteristics and how they also influence family change. The findings demonstrated that economic resources such as income between the two family structures lead to specific child outcomes. Although its effect was minimal, it was also estimated that parental depression does hinder the parent's ability to move out of their current single status. This underscores the importance of uncovering the possibility of whether parental and child characteristics also influence family change.

Chapter 7
Multiple Transitions or Stability Following Change?

The previous chapter focussed on change that occurred between the second and the third wave of the study, leaving out individuals who have undergone transitions between wave one and wave two. The results therefore, reflect the recent change and detrimental effects that arise from the trauma of recent family transition. The timing and sequencing of events is a recurring theme throughout this thesis. One of the pervasive questions pertaining to the timing of events is whether the initial shock of family change (for example change from two-parent to single-parent) would be reduced with the passage of time, or whether one transition triggers subsequent family changes over time. The last analysis showed that regardless of type of change, family transition was detrimental for parents' and children's health. The exception was for children who changed from single parent to two-parent families, where the result was not statistically significant.

The question of whether families who changed between waves one and two are more likely to remain stable or undergo another transition will be explored further in this chapter. We also examine the impact of another family transition at wave three, whether it also leads to an increase in parental depression and child emotional disorder or changes in household income. Divorce for example can be perceived not so much as an isolated event, but as the springboard for a number of family transitions throughout the life cycle. This may indeed just be the first step in a series of additional changes that involve parents' marital dissolutions and remarriages (Amato and Sobolewski, 2001; O'Connor et al. 1999). Studies have found that multiple transitions were associated with adverse health risks among children in comparison to stable original biological, lone-parent and stepparent families. In this regard, family relations such as parent-child activities, parental support and supervision diminish as the number of transitions increase (Capaldi and Patterson, 1991). For families then that have undergone recent change from wave one and wave two, the following question is examined: will they change again or will they remain stable between waves two and three? Does another family transition at wave three again lead to an increase in child emotional disorder and parental depression and changes in household income?

7.1 Data Limitations

In the last chapter, the causal mechanisms by which economic resources and family processes affect parents' and children's health and vice versa were analyzed separately for two-parent and single-parent families. A distinction was also made for the impact of family change, whether change from two-parent to a one-parent family was more detrimental than change from one-parent to two-parent family for parents' and children's health. The analytical strategy to be undertaken here will not make the distinction between these types of change. The main reason for including both types of families in one structural equation model is the small sample size. Because the model was conceptualized as families who have undergone recent change from waves one and two, we left out families that were stable between these two time periods. Also, in wave three, we determine the number of families that changed again, whether they moved from two-parent to a single-parent family or whether they changed from a single-parent to a two-parent family. And so the entire sample size consisted of only 332 cases. Table 7.1 shows that there were 184 families that changed from a two-parent to a single-parent family, while 148 families changed from a single-parent to a two-parent family between wave one and wave two. Of these 184 families, 40 changed again from a single-parent to a two-parent family by wave three. From the 148 families, 44 changed back from a two-parent to a single-parent family in cycle 3. The majority of families then remained stable in wave 3.

Table 7.1 Number of Single-Parent and Two-Parent Families and their Family Status for Each Time Period

Change in Family Status from 1994 to 1996 (Wave 1 and 2)	**Family Status in 1998 – 1999 (3rd Wave)**	
Change from Two-Parent to Single-Parent Family between waves one and two	**Changed (again) from Single-Parent to Two-Parent Family in 1998 between waves two and three**	**No Change in 1998 – Remained as Single-Parent Family between waves two and three**
184	40 (22%)	144 (78%)
Change from Single-Parent to Two-Parent Family between waves one and two	**Changed (again) from Two-Parent to Single-Parent Family in between waves two and three**	**No Change in 1998 – Remained as Two-Parent Family between waves two and three**
148	44 (30%)	104 (70%)
Total Number of Families who Changed from 1994 to 1996	**Total Number of Unstable Families in Wave 3:**	**Total Number of Stable Families in Wave 3:**
332	84	248

7.2 Additional Family Status Variable

The last model showed only one family status variable between waves two and three. The model to be presented here differs from the previous one by adding an additional family status variable between waves one and two. In this model, the variable *CS2* denotes the change in single status variable in wave two. *CS2* then represent families that changed from a two-parent to a single-parent family. Therefore, the reference category would be families that changed from a single-parent at time one to two-parent families at time 2. We also add the third variable *CH3* which represent families that changed from a two-parent to a one parent family in cycle 3 (given that they changed from a one-parent to a two-parent family in cycle 2) as well as families that also changed from a one-parent to a two-parent family in the third wave (given that they changed from a two-parent to a single-parent family in cycle 2). The following coding scheme represents the family change categories for Cycle 2 and Cycle 3 respectively:

Family Change in Cycle 2:	**Family Change in Cycle 3:**
Change from Single-Parent to Two-Parent = 0	Two-Parent = 0 (No Change) Change back to Single-Parent = 1
Change from Two-Parent to Single-Parent = 1	Single-Parent=0 (No Change) Change back to Two-Parent = 1

The reference category then for *CH3* are those families that remained stable between cycles 2 and 3. In other words, *CH3* = 1 are families that experienced change in every cycle. The main hypothesis to be examined in this model is that family change at time 2 (CS2 = 1) will lead to an increase in parental depression and child emotional disorder, as well as a decrease in household income. The model was also estimated using structural equation modeling with LISREL.[36]

7.3 The Product Term

In addition to the family status variables, a product term was derived from these two family change variables. The following coding schemes represent the following family change categories for the variable CS2 * CH3:

The CS2*CH3 = 0 include the following family structure:

- Families that changed from single-parent to two-parent families in cycle 2 (CS2 = 0), and remained as two-parent families in cycle 3 (CH3=0).
- Families that changed from single-parent to two-parent families in cycle 2 (CS2 = 0) but changed back to a single-parent family in cycle 3 (CH3 = 1).
- Families that changed from two-parent to single-parent family in cycle 2 (CS2 = 1), and remained as a single-parent family in cycle 3 (CH3 = 0).

The CS2*CH3 =1 therefore includes the following family structure:

- Families that changed from a two-parent to a single-parent family in cycle 2 (CS2 = 1) and changed back to a two-parent family in cycle 3 (CH3 = 1). When interpreting the results for the product term, it is important to keep in mind that they refer to families that experienced change in every cycle, specifically for families that changed back from a single-parent to a two-parent family in cycle 3.

7.4 Model Estimation

Covariance matrices were created using the listwise deletion of missing cases. Like the previous model in Chapter 6, the model was estimated using the maximum likelihood and the model fit was estimated with the assessment of χ^2 and the degrees of freedom. A small χ^2 relative to the degrees of freedom is evidence of a good fitting model along with an insignificant χ^2 because the model's predicted E is close to the observed variance covariance **s** for the remaining differences to be mere sampling fluctuations. Table 7.2 shows the final model with 41 degrees of freedom, a chi-square of 50.43 and a p-value of

.150 indicating that the model is a good fit with the data. The root mean square of approximation is .03, which is less than .05 and therefore meets the criteria of a good fit. Unlike the previous model in Chapter 6, a stacked LISREL analysis was not employed in this case. Several steps were undertaken before deciding on the final model shown in this chapter. First, equality constraints were imposed to be equal to the stable two-parent groups in chapter 6. This was based on the notion that the change in family status at time 2 (CS2) represented families that changed from a two-parent to a single-parent family. The purpose of equality constraints was to ascertain the similarities between the two groups, whether the unstable groups behave similarly to the stable two-parent or stable-single parent groups. This is based on the assumption that this particular group will react to family change in the same way as that of the previous stable groups. Equality constraints were also imposed on the stability effects to be equal to the effects observed among the stable two-parent groups. Based on several model tests, it was determined that imposing equality constraints to be equal to some of the values from the previous model did not improve the fit of the model.

The imposition of equality constraints was undertaken for the stability effects including the effect of child emotional disorder at time one and child emotional disorder at time 2. The same process was repeated for the estimation of stability effects on parental depression and household income. Cross-lagged effects were also estimated on the relationship between parental depression and child emotional disorder, household income and parental depression, household income and child emotional disorder, family change at time 2 and family change at time 3 and child emotional disorder, family change at time 2 and time 3 and parental depression, and family change at time 2 and time 3 and household income. It should be noted that the influence of family change at time 2 did not have a statistically significant effect on family change at time 3. Other non-significant effects that were dropped from the model were the effects of child emotional disorder on parental depression.

After careful assessment of the modification indices, some parameters were allowed to be free so the improvement of the fit of the model could be compared with the previous one before its specific modification. Like the previous model, contemporaneous effects were added in place of the cross-lagged effects for child emotional disorder and parental depression, change in family status at time 2 on parental depression at time 2, change in family status at time 2 and household income at time 2, and change in family status at time 3 on household income at time 3, and parental depression at time 1 and household income at time 1. Additional parameters were estimated for the stability coefficients including the effects from child emotional disorder at time 1 on child emotional disorder at time 3 as well as the effects from parental depression at time 1 on parental depression at time 3. The influence of family change variables on household income were estimated for its contemporaneous effects for time 2 and time 3 as well as its cross-lagged effects from CS2 on IN3 and from CS2*CH3 on IN3. The effects of child emotional disorder were also estimated for within wave effects (CD2 on CS2) as well as its cross lagged effect from time 1 to time 3 (CD1 on CD3), and from time 2 to time 3 (CD2 on CH3). The final model was also estimated with the additional effect from child emotional disorder at time 2 on the product term CS2*CH3.

7.5 Results

Tables 7.2, 7.3 and 7.4 present the structural equation modeling results for families that changed between cycles 1 and 2. Again, even though these results were estimated from only one structural equation model, for ease of interpretation and readability, separate tables were constructed for each of the relationships. For example, table 7.2 represents the stability coefficients, while table 7.3 denote the relationships between parental depression and child emotional disorder and household income. Finally, table 7.4 shows the relationships between family change and parental depression, household income and child emotional disorder. The dependent variables are presented in the rows while the independent variables are presented in the columns. The unstandardized coefficients are presented in these tables while the standard errors are displayed in parentheses. The significance level is set at the .01 level.

In table 7.4, the last three columns represent the independent variables, change from a two-parent to a single-parent family (CS2), and CH3 represent change from a two-parent family to a single-parent family as well as families that changed back from a single-parent to two-parent families in cycle 3. The product term was derived from the two family change variables, CS2*CH3. As mentioned, a value of 1 for the product term would represent families that changed from a two-parent to a single-parent family at time 2 and then changed back to a two-parent family at time 3.

7.5.1 Stability Effects

Table 7.2 shows that the stability effect for child depression was similar as the two-parent and single-parent family groups from tables 6.2 (b = .43). The smallest effect was shown from time 1 to time 3 (b = .16). Parental depression on the other hand was much less stable than the two-parent and single-parent groups (b = .16). There was also an effect from time one to time 3 (b =.17). The income stability effects were much less stable than the comparable effects in tables 6.2 and unlike the previous tables, there was no lag effect from time 1 to time 3. The difference however was that the income stability from time 2 to time 3 is a little bit larger (b =.54) in comparison to the effect for both the two-parent in single-parent groups in Chapter 6. It is possible that the parent's stability in income drops as the status of the parent changes, particularly as it changes from a two-parent to a single-parent family. It should be noted as well, that the stability coefficients were initially estimated for change at time 2 (CS2) on change at time 3 (CH3), but the result was not statistically significant.

Table 7.2: Stability Effects for Child Emotional Disorder, Parental Depression and Household Income

	Child Disorder			*Parental Depression*			*Household Income*		
	CD1	**CD2**	**CD3**	**PD1**	**PD2**	**PD3**	**IN1**	**IN2**	**IN3**
CD2	.43** (.05)								
CD3	.16** (.07)	.43** (.05)							
PD2				.16** (.04)					
PD3				.17** (.06)	.16** (.04)				
IN2							.54** (.03)		
IN3								.54** (.03)	
R^2	.06	.24	.34	.02	.13	.25	.01	.59	.62

Degrees of Freedom: 41; Minimum Fit Function Chi-Square: 50.43 (P=.150)
Adjusted Goodness of Fit Index (AGFI) = .93
Goodness of Fit Index: (GFI) = .96
Root Mean Square Error of Approximation (RMSEA) = .03
** significant at the .01 level.
Results are unstandardized coefficients while standard errors are displayed in parentheses.

7.5.2 Parental Depression and Child Emotional Disorder

Table 7.3 shows that the contemporaneous effects of parental depression on child depression were small but nevertheless the within wave effects were statistically significant (b = .14 for time 1 and b = .11 for all time 2 and time 3). There were no cross-lagged effects noted in these findings. These results resemble the time one effects for both the stable two-parent and the single-parent groups in table 6.3. Unlike the findings from the last chapter, the findings from this model did not show any effects from child emotional disorder to parental depression.

7.5.3 Income and Child Emotional Disorder

Unlike the stable single-parent group where income influenced child emotional disorder, the findings from table 7.3 reflect the same pattern as that of the two-parent group, that income had no influence on child disorder. There were no cross-lagged effects noted either in this model which also resembles the same pattern as for the stable two-parent family group in Table 6.4. There were no contemporaneous effects or cross-lagged effects of child depression on income, nor were there any for the stable two-parent and stable single-parent families from the previous chapter.

7.5.4 Income and Parental Depression

As shown in table 7.3, income had an effect on parental depression in the negative direction. There were no contemporaneous effects observed in these findings. However, cross-lagged effects were observed whereby greater household income at time 1 reduced parental depression at time two (b = -3.67). The same pattern is also noted from time two to time 3 (b = -1.94). These findings resemble what was observed for the stable single-parent families (see Table 6.4) in particular, the effect of income at time one on parental depression at time 3 (b = -1.57).

Cross-lagged effects are noted for the effect of parental depression at time 2 on income at time 3 (b = -.02) and they are similar to the contemporaneous effects (time 1) and the cross-lagged effects (time 1 to time 2 and time 2 to time 3) observed for the two stable groups. The only difference is that for the stable single-parent group, a cross-lagged effect was observed from time 1 to time 3.

Table 7.3 Relationships between Child Emotional Disorder, Parental Depression and Household Income

	Child Disorder			*Parental Depression*			*Household Income*		
	CD1	**CD2**	**CD3**	**PD1**	**PD2**	**PD3**	**IN1**	**IN2**	**IN3**
CD1				.14** (.03)					
CD2					11** (.02)				
CD3						11** (.03)			
PD1									
PD2							-3.67** (.74)		
PD3								-1.94** (.48)	
IN1				-.03** (.008)					
IN2									
IN3					-.02** (.003)				

7.5.5 The Influence of Family Change on Child Emotional Disorder and Parental Depression

One of the main questions explored in the analysis pertains to the detrimental effects that arise from family change, and how that in turn influences parental depression and child emotional disorder. The results show that families who changed from a two-parent to a single-parent family in time 2 experienced an increase in parental depression. The magnitude of the effect (b = 8.63) was much greater than that of the stable two-parent groups who changed to a single-parent family at time 3. The effect however on child emotional disorder was not statistically significant. The effect of family change at time 3 on parental depression and child emotional disorder was not statistically significant. The drop in household income was in the expected negative direction (b = -.775) and these results are comparable to the stable two-parent groups in Table 6.5. The CH3 variable represents families that experienced change in every cycle. The reference category therefore are those families that experienced change in time 2 but remained stable in cycle 3. The influence of family change on parental depression and child emotional disorder was not statistically significant. It should also be noted that family change (from two-parent to single-parent) at time 2 had no effect on family change at time 3.

7.5.6 The Influence of Family Change on Household Income

The influence of family change on household income requires a closer examination on the different types of change that occurred at the two time points, as well as the effect of the product term on household income at time 3. Note that CS2 represent families who changed from a two-parent to a single-parent family with the reference category representing families who changed from a single-parent to a two-parent family at time 2. CH3 are families who changed again, regardless of whether they changed back to a two-parent family or whether they changed back to a single-parent family. Therefore, CS2*CH3 are families that changed back from a single-parent to a two-parent family in cycle 3. The following results are taken from Table 7.4 and provide a breakdown on the effects of family change on household income at time 3. Looking at the effects of family change on household income, we can determine the following possibilities: Let the expected income at time 3 equal y. The effects of family change at time 2 and time 3 on income at time 3 is given by the following equation:

$Y = -.23*CS2 - .40*CH3 + .92*CS2*CH3$:

Time 2	**Time 3**	**IN2**		**IN3**		**Income Effect**
Single-Parent (CS2=1)	Single-Parent (CH3=0)	-.23	+	0	=	-.23
Single-Parent (CS2=1)	Two-Parent (CH3=1; CS2*CH3=1)	-.23	+	-.40 + .92	=	.29
Two-Parent (CS=0)	Single-Parent (CH3=1)	0	+	-.40	=	-.40
Two-Parent (CS=0)	Two-Parent (CH3 =0)	0	+	0	=	0

It is clear that families who changed from a single-parent to a two-parent family in cycle 2 and then changed again to a single-parent family experienced the greatest drop in household income. Given that the measure of income is the log of household income, a coefficient of –.40 indicates a drop in household income by 33 percent.[37] Similarly, a coefficient of -.23 for families who changed from two-parent to a single-parent family in cycle 2 and remained so in cycle 3 experienced a 21% drop in household income. Families that experienced a gain in household income were those that changed from a two-parent to a single-parent family in cycle but changed back to a two-parent family in cycle 3. Their household income improved by 33 percent.

7.5.7 Do Family Processes and Economic Resources Influence Family Change?

The results show how parent's and child's characteristics as well as economic resources contribute to family change. It is well-established that family change contributes to child emotional disorder and parental health, but it cannot be discounted that its characteristics also contribute or hinder family transition. Parental depression at time one reduced the parent's likelihood of changing family status at time two (b= -.01), while parental depression at time 2 also decreased the likelihood of changing into another family status at time 3. In the last model, (Chapter 6) a single parent's level of depression at time two, hinders their ability to move into another union at the next wave. Higher levels of income at time increased the likelihood of family change at time two (b = .37). From the previous model for the stable two-parent groups, greater household income reduced the propensity to change to a single status (b = -.02 in table 6.4). The child's characteristics also contributed to family change at time 2 and time 3. In this analysis, emotional disorder at time 1 contributed to the likelihood of changing family status at time three (b = .02). Similarly, child emotional disorder at time 2 reduced the likelihood of changing from a two-parent to a single-parent family at time 2, although the results are not statistically significant. However, it increased the propensity to change at time 3 (whether it was change from a two-parent to a single-parent status or whether it was change from a single-parent to a two-parent status), but less likely to happen if it was change from a single-parent to a two-parent family (CS2*CH3 = 1; b = -.01). These results were slightly greater than the influence of child emotional disorder at time 2 on family change at time 3 for the stable two-parent groups (see table 6.5 where b = .0004).

Table 7.4 Relationship between Family Change, Child Disorder, Parental Depression and Household Income

	CD1	CD2	PD1	PD2	IN1	CS2	CH3	CS2* CH3
CD2								
CD3								
PD2						8.63** (.11)		
PD3								
IN2						-.77** (.09)		
IN3						-.23** (.06)	-.40** (.08)	.92** (.12)
CSING2		-.0004 (.01)	-.01** (.005)		.37** (.04)			
CHN3	.02** (.005)	.02** (.005)		-.01** (.004)		-.07 (.05)		
CSING2 *CHN3		-.01** (.004)				.22** (.03)	.46** (.03)	

7.6 Discussion

The aim of this chapter was to examine the short-term impact of family change on parent's and children's health. Following this, the analysis was extended to determine the possibility of another change at time 3, to ascertain whether families who changed between cycles 1 and 2 were more likely to remain stable or experience another change between wave 2 and wave 3. This was demonstrated with the effects of family change at time three. There were no clear-cut patterns that emerged when comparing the results in this chapter to the previous findings in chapter 6. Some results resembled the findings of the stable two-parent group while other findings were more similar to those of the stable single-parent group.

The relationship between parental depression and child emotional disorder resembled the time one effects for both groups in chapter 6. The difference however was that only contemporaneous effects were observed for the findings in this chapter. The noted difference as well was that for the stable two-parent and stable single-parent groups, the influence of child emotional disorder on parental depression was stronger than the effect of parental depression on child emotional disorder. In this chapter, there was no influence of child emotional disorder on parental depression. Income had a strong influence on parental depression, but not child emotional disorder. The effect of income on parental depression resembled that of the stable single-parent group, that greater household income significantly reduced parental depression.

The change from a two-parent to a single-parent family in cycle 2 demonstrated a greater detrimental effect for the parents than those who changed in cycle 3. The effect however for child emotional disorder was not significant. It is possible that change that occurred when children are a little bit older (8-11 years old) as opposed to when children are 4-7 years old as demonstrated in this model will result in children exhibiting more emotional disorders, given that these depressive type of symptoms are not usually observed until the children are older. The influence of family change at time 3 did not exhibit any statistically significant findings. As shown, families who changed at time 2 were less likely to change again at time 3, and what little change that was observed did not demonstrate any adverse effects for the parent's or the child's health.

One can make the argument that the non-significant effects of family change at time 2 on child disorder at time 2 as well as the effects of family change at time 3 on parental depression at time 3 and child disorder at time 3 could be attributed to the small sample size. But equality constraints were initially imposed to make the effects of family change at time 3 on parental depression at time 3 and child disorder at time 3 be equal to that of the stable groups. The fit of the model worsened substantially with the noted increase in the chi-square from 50.43 to 73.33. In addition, these parameters were estimated and the results were not statistically significant. Also the chi-square of the model with the freed estimates of parental depression at time 3 and child disorder at time 3 was noted. The difference between this chi-square and that of the constrained model was greater than 3.84. Therefore, an argument can be made that the unstable group differs from the two-stable groups. The non-significant effects of family change at time three on parental depression at time 3 and child disorder at time three can be attributed to having undergone family change at an earlier time. The fact that they already experienced family change before may indicate a propensity for subsequent changes and therefore a greater likelihood of adjusting to later transitions.

While change in family status is indeed a stressful time for family members, parents may initially feel the impact, but its effects do not seem to linger over the next time period. As family members begin to adjust to their new lives and daily routine, the negative outcomes seem to be reduced over the subsequent period as families are more likely to remain stable over the subsequent wave. Initially, it was estimated whether family change at time 2 affected family change at time 3, but the findings were not found to be significant either. It cannot be discounted however, that a family transition at a previous wave can also trigger another family change, if not these next two years, but perhaps the following next two years in cycle 4.

Family change in this model occurred among younger children, (aged 4 to 7 years old) who are still relatively young and may be more at risk for another family change in the next time period. If so, then this recent transition supports the perspective that whether it is divorce or remarriage, this event represents the start of a series of different transitions that children will experience throughout their lives. It has been noted for example, that family change is a strong predictor of subsequent transitions (O'Connor et al. 1999). In the last model (Chapter 6) the recent transition occurred among older children, and we cannot assume that the detrimental effects observed then will also be reduced over time or whether the children in that sample will also experience another family transition. Once information becomes available for the fourth wave, then comparative analysis can be undertaken between these two groups, and ascertain differences in their adjustments to family change.

The major difference in the family change analysis in comparison to the one in Chapter 6 was the inclusion of the product term. In this regard, it was determined whether the influence of family change on economic resources differs whether it is change from two-parent to a single-parent family or whether it is change from a single-parent to a two-parent family. An important contribution from these findings is that we were able to assess the family's improvement or reduction in household income based on the type of transition they encountered over time. It is clear that families who changed from a single-parent to a two- parent family in cycle 2 and then changed back to their single-parent status at cycle 3 experienced the greatest overall drop of 33 percent in household income. The fact that these families who changed to a two-parent family in cycle 2 would have already experienced changes in household income from their previous change to single-parent families. And their subsequent change back to a single-parent status by wave three denotes substantial drops in financial status and sustained fall in living standards after marital dissolution. While the benefits of remarriage may point to added economic resources initially, accounting for the single-parent status at some point did not show an overall net improvement.

The role of economic resources supports the well-established perspective that the financial strain associated with family change (especially change from two-parent to single-parent) increases parental depression. This was demonstrated by the negative relationship between household income and parental depression, that economic resources tend to alleviate the strain associated with family change. More importantly, the availability of financial capital influenced the parent's decision to change family status. The result in the analysis demonstrated that higher levels of household income at time one increased the likelihood of change to single parent status at time two. This demonstrates the need to examine divorce more as a process, and identify the important factors that will influence the parent's decision to leave their spouse. Obviously, parents who felt they had enough resources to survive over the next two years felt more compelled to strike out on their own. Family members have different needs and the need to look at their reactions to family transition exemplifies these differences. The change in wave two resulted in a very large increase in magnitude for parental depression. Single-parents must now bear the responsibility of being the main provider for the household and the lack of social support often encountered by single-parent families explains why they are more at risk for mental disorders. Aseltine and Kessler (1993) further unpack the relationship between marital disruption and depression and notes several changes often faced by single-parents. These include changes in social relationships and support, changes in financial circumstances, changes in the demands of childcare, housework and employment, and changes in residence (1993: p. 238).

As previously mentioned, those who changed family status at time two were more likely to remain stable at time 3. For example, families who changed from a two-parent to a single-parent family were more likely to remain as a single-parent family in cycle 3. There was no lingering effect of the single-parent status at time three on parental depression at the same time and this finding is in keeping with previous studies (Lorenz et al. 1997). Lorenz and colleagues (1997) found that despite the heightened feelings of depressive symptoms immediately after divorce, these findings do not persist over time. That is mothers and children find a way to adjust to their new lives without the father. But the authors note that single mothers still report levels of depression above the level reported by married mothers. According to Lorenz and colleagues (1997) "the higher the initial level of negative events immediately after the divorce, the slower the decline in depressive symptoms over time" (p. 222). It would be worthwhile then to examine if parental depression is further reduced after the fourth wave.

One of the important questions to be examined in this analysis is the role of parent's and child's characteristics and their influence on family transition. Although the findings were modest, it cannot be discounted that the parent's and the child's health have some impact on family transition. As shown in the previous chapter, parental depression at time two hinders the single-parent's ability to move out of their single-parent status. This was also evident for parent's characteristics for the model demonstrated in this chapter. Those who felt depressed at time one were less likely to change in the second wave. Child emotional disorder however influenced family change at time 3. While child disorder at time 2 did not influence the ability to change into a single-parent status at time 2, it did have a small impact on family change at time 3, and even less so for families to change back into a two-parent family at cycle 3. This finding resembled the pattern for the stable single-parent family in Chapter 6, that higher levels of child emotional disorder does reduce the parent's ability to move out of their single-parent status. The parent's and the child's state of health play an important role in family transition and must be accounted for when studying the dynamics of family transition. Family transition result in various changes in family processes and economic resources, but can only be fully understood by accounting for the roles that parents and children play during the process of change. Indeed, recognizing different family members' perceptions of family change is paramount to understanding the complexities of family transition and its impact on people's lives.

Chapter 8
Conclusion

This dissertation attempts to address one of the pervasive questions surrounding the Canadian family structure – whether family structure matters to children's health. An important contribution that this thesis makes centers on the importance of *process* rather than structure as explanations to children's development. The roles of family processes and economic resources are regarded as important contributing factors to children's well-being and serve to explain the detrimental effects felt by children as they undergo family change. It is important to recognize that children's lives are not static, and that at some point in their lives they will encounter major changes, whether it involves change from two-parents to single-parent or from a one-parent to a two-parent household. An important distinction is made between families that have undergone change and those who have not. We are able to construct a more accurate picture if indeed children suffer from negative health outcomes if they are raised in households that deviate from the structure of both biological parents. Finally, we account for the importance of children's perspectives on family transition, that children are indeed active rather than passive actors in the process of family transition. They have as much influence on family processes as process does on their lives. As such, we begin to see the emergence of children's roles and contribution to family processes and its impact on family change.

8.1 General Findings and Discussion

A process explanation was undertaken to ascertain the family structure differences in children's lives. The question of whether economic resources are more important than family process depends on the health outcome in question. For emotional disorder, *change* in family structure rather than stable family structure is more important in explaining children's outcomes. In particular, the transition from biological parents to single-parent households between cycle 1 and cycle 2 is found to have severe consequences for young children. Even when economic resources are accounted for in the model, the effects remain strong and significant. If the transition occurred however between 1996 and 1998, when the children were two years older, the magnitude of the effect is only one-half the size the effect of its 1994-1996 time period.

The *timing and sequencing of events* is a recurring theme throughout this thesis. The timing in which the family change occurred would have a significant impact on how children react to major events in their lives. Family transition that occurs early on in a child's life appears to be more traumatic than if they occurred later on. Children's sense of a family would be different if they were in the ages 4 to 7 years as opposed to 8 to 11 years old. Younger children for example have a greater propensity to express fear and anxiety with thoughts of their parents abandoning them (Wallerstein and Kelly, 1980). On the other hand, older children may still express feelings of sadness but have a better understanding of the situation. In time, they often perceive the transition to be neutral or even positive (Amato, 1987).

Rogers and Pryor (2001) point out that young adolescents use anger as a way of expressing their pain, helplessness and sadness at the time of change. Such expressions may manifest itself in "acting out" behaviours as demonstrated in physical aggression and destructive behaviours. The findings for these behaviours are mainly significant between the second and the third wave of the study as children move from 6 to 9 years (cycle 2) to

8 to 11 years old (cycle 3). Even when economic resources and family process variables are accounted for, the effects remain significant.

We also note the differences in family structure/change categories. The stable stepparent category is not as pronounced in other outcomes as the property offences outcomes. For this type of 'acting out' behaviour, economic resources and family processes do not account for the stepparent effect on destructive behaviours. The early phases of stepfamily formation create a whole set of tensions and family relations that must be renegotiated to accommodate the stepparent into the household. Because of the lack of opportunity for community development that stems from partnership formation, the event of birth that normally integrates biological parents and their children to their community, social capital may not be sufficient in stepfamilies (Pryor and Rodgers, 2001). Moreover, stepfamilies according to Cherlin (1978) lack the institutional norms and guidelines that guide complex family relations, and so at least in the early stages, cohesion may be lower than in original two-parent families. Previous studies found that stepfamilies spend less time doing activities together, especially when it involves activities outside the home (Thomson et al. 1992). As Ferri and Smith (1998) suggest, economic restraints in stepfamilies due to larger numbers of siblings at home may prevent them from participating in activities outside their home. This also reflects the fact that children in stepfamilies may spend some of their weekends with the non-custodial parent.

Household income is found to be significant and in the expected negative direction for all outcomes, reflecting the importance of economic resources in parents' and children's lives. It is determined that higher levels of household income lead to a reduction in emotional disorder, physical aggression, destructive behaviours, and risk for injuries.

8.2 A Dynamic Approach to Studying Family Transition

Chapter 5 provided a general overview of studying the effects of family structure and change on a wide range of behavioural outcomes. It examined the role of economic resources and family processes as contributing factors to the family structure effects on children's health and well-being. Therefore, its main purpose was to paint a picture of Canadian children in the context of these underlying factors. This thesis then moved to a more dynamic approach in studying family change over time and its impact on economic resources, family processes and children's health.

An important contribution this research makes is in regards to the application of longitudinal analysis that allows one to track the developmental progress of children over time. It should be noted that even though longitudinal analysis was undertaken in Chapter 5, the analysis in that chapter focussed on two waves at a time. The analysis employed in Chapters 6 and 7 accounted for all the three cycles at the same time, by accounting for the variables of interest at each specified cycle. This provided a more comprehensive analysis of identifying the factors that put children at risk for a vulnerable outcome, such as emotional disorder, which normally would not be accomplished if only two waves at a time were examined. A major life experience such as family change from two-parent to a single-parent family or from a single-parent to a two-parent family can be a positive or a negative experience for parents and children. Child development according to Willms (2002) is viewed as a marked change in status or as a transitional process. Therefore, what constitutes entry or exit into periods of vulnerability is also considered to be a transitional process.

In the event of change, one can ask several questions simultaneously: What happens to parental depression and child emotional disorder? Do parent's depression and child emotional disorder influence one another simultaneously? Is there an improvement in household income, if change occurs from a single-parent to a two-parent family? How much of a reduction in household income results from change to a single-parent family? Do children and parent's health characteristics influence family change over time? In Chapter 6, the analysis focussed on children who were stable between cycles 1 and 2 but encountered change between cycles 2 and 3. The movement from a two-parent to a single-parent family led to an increase in levels of parental depression and child emotional disorder, but the magnitude of the adverse effects was greater for parents than for children. This reflects how disruptive marital breakup is for children and parents who must now make major adjustments in their lives. A major adjustment of course is relying only on one source of household income and this is evident in the overall reduction in household income following change.

The approach taken in Chapter 7 examined the potential for change at every cycle and steps were undertaken to compare the findings from Chapter 6. In Chapter 7, it was determined that change in cycle 2 did not influence change in cycle 3, and the majority of the families remained stable in 1998/1999. Still, some noteworthy findings were that change to a single-parent family in cycle 2 resulted in higher levels of parental depression but not child emotional disorder.

8.2.1 The Influence of Household Income

Findings reveal that higher household income reduced parental depression for two-parent and single-parent families. In particular, the magnitude of its reduction was twice as much for single-parent families. This is consistent with previous studies that found economic deprivation to be an essential contributor to parent's mental health. Single-parent families especially lack the economic capital necessary to provide adequate nutrition, and health services that promote healthy child development (Hanson et al. 1997). The constant financial challenges and obstacles encountered by single-parent families contribute to an elevated psychological distress following transition.

Another important finding relating to income concerns the overall net change in household income as a result of the different possibilities of change. This identified which families undergoing change was most at risk for persistent low income. It was determined that families who changed from a single-parent to a two-parent family in cycle 2 and changed back to a single-parent family in cycle 3 experienced the greatest drop in household income. On the other hand, families that experienced a gain in household income were those that changed from a two-parent to a single-parent family in cycle but changed back to a two-parent family in cycle 3. Their household income improved y 33 percent. Therefore, the family's economic circumstances before the event of change must be accounted for when determining the impact of family transition.

8.2.2 Linked Lives

The notion of *linked lives* is also a pervasive theme throughout this thesis and findings stress the importance of how parents and children's lives influence one another simultaneously. Findings indicate that family change does impact children's and parent's lives differently. While change from a two-parent to a single-parent family was detrimental for both parents and children, the movement from a single-parent to a two-parent family is significant only for parental depression. The change from a single-parent to a two-parent family improve levels of household income, demonstrating that this type of change has its economic benefits but at the cost of higher levels of parental depression. There is evidence that parents and children do have different needs and expectations and when ascertaining the implications of family transition we cannot refer to the family as one whole unit (McDaniel and Tepperman, 2001).

The findings from the analysis show that children's characteristics also influence parental health status. Specifically, child emotional disorder increases parental depression among single parent families. It is also found that parents whose children suffer from higher emotional disorder at the first wave of the study are less likely to move out of their single-parent status between cycles two and three. Findings also point to the role of children's health characteristics. That child emotional disorder at time 1 impacts on family change at time 3 but is less likely to happen if change occurs from a two-parent to a single-parent family. This signifies the important role of children's characteristics on family relations and how they in turn contribute or hinder family transition over time. It is therefore important to recognize children's own voices, their views on divorce and remarriage and how they may also contribute to the decision-making processes regarding family change.

8.3 Policy Implications

Two perspectives influence how one can interpret family change and the direction that policymakers should undertake. The conservative perspective equates family change to family decline in that children's normal development is threatened without the stability of a two biological-parent household (Popenoe, 1993). This pessimistic view points to policy recommendations that make access to divorce difficult. Rogers and Pryor (2001) cite two examples where the rate of family change is slowed by the following means:

> "The introduction of covenant marriages in some states of the United States, in which couples undertake premarital counseling, and where divorce is both more difficult to obtain and fault-based. Another conservative approach to reinforcing families is to argue for the reinstatement of men as authority figures in the lives of their families, based on the premise that fatherlessness is a major cause of family and social decline" (Blackenhorn, 1995; Popenoe, 1996 as cited by Pryor and Rogers, 2001, p. 9)

This approach is unrealistic, in that by restricting access to divorce does not fully address the central problem. Indeed, past studies have found that intense conflict between continuously married parents is more detrimental to children than if parents actually divorced (Morrison and Coiro, 1999) and that the emotional and behavioural problems among children were quite apparent even before the event of separation (Cherlin et al, 1996). The findings from this research point to the inevitable changes that children will undergo throughout their lifetime. Even when children are young, families move from two-parent to a single-parent household and vice versa. As families undergo transition, it is paramount to pay particular attention to the changes in economic resources and family processes.

8.3.1 Income Matters

Despite a vast array of literature arguing for a strong association between low income and children's health and well-being, recent Canadian studies found only a weak association between economic resources and child well-being (Willms, 2002; Roberts et al. 2001; Curtis et. Al. 2000; Dooley et al. 1998). These findings appear to be contrary to the investment theory (Becker, 1991; Becker and Tommes, 1986) which clearly posits that income is crucial for the well-being of children, given that children raised in affluent families will have better life chances. The implications of income as a key input to children's health and academic outcomes is vital to policy formulation particularly on issues related to child poverty. If indeed the association of income and child outcomes is weak, then the policy implication is that transfer programmes for low income families is relatively unimportant and that other avenues of policy intervention should be explored.

This research challenges the generally weak association found between economic resources and children's well-being from previous studies. It is imperative that the link and the causal mechanisms by which income affect children's health be re-considered in order to arrive at a better understanding of how income truly impacts on children's lives. It is found that income does not influence child emotional disorder for two-parent families. For single-parent families however, income reduced child emotional disorder from time 1 to time 3. It also reduced parental depression, both in the short term and long term basis. This is critical in that parents who are depressed are not able to provide a warm, nurturing, and supportive environment for their children. Income therefore can indirectly impact children's lives through the improvement of the parents' state of mental well-being. Findings also reveal that the magnitude of income reducing parental depression is much stronger for single-parent than for two-parent families. These findings point to the different needs of two-parent and single-parent families. Economic resources do play an important role in parents' and children's lives regardless of family structure, but it must be recognized that the needs of single-parent families are far more complex than those of intact families. The fact that higher income in the long run does reduce child disorder supports the notion that cumulative income is indeed important for improving children's well-being (Mayer, 1997, Roberts et al. 2001). This is also in line with Becker's argument (1974) that clearly makes the case that the consequences of income appear with a lag; that the resources are invested in the child's development today with the expectation of increased benefit in the future. The results therefore, provide support for continuation of direct transfers to lower income families, particularly for families who are in persistent poverty.

But what can be said for the short-term adverse effects of higher levels of household income for children raised in single-parent families? While improvements in income are beneficial in the long run, it should not be the only factor to be considered in influencing children's health and well-being. According to Becker (1974), the other key factor essential for children's attainments provided by parents is time. For single-parents, the amount of time spent to earn the same level of income would be quite different from that of two-parent families. The fact that most single-parents must struggle to make more money at the cost of less parental supervision and therefore time away from their children underscores the importance of examining the family environment in which parents and children live. Increasing transfer payments while crucial for the child's well-being is not sufficient, unless it is accompanied by sustained improvements in the child's family environment. Simply providing employment to the single-parent might even heighten levels of stress that decreases the family's capacity to handle the demands that are placed upon it (Adams and Ryan, 2000). Policies that promote decreased welfare dependence or providing new employment to the parents can only reduce children's developmental problems on the condition of substantial improvements in the standards of living.

The findings from this research underscore the importance of how parents and children's health mutually influence one another. While parental depression increases child emotional disorder only modestly, the influence of child disorder on parental depression is greater in magnitude for single-parent families particularly at the time when families are undergoing the transition from two-parent to single-parent families. This demonstrates the many challenges that single-parents must face, particularly when it entails dealing with the illness of a child. It would therefore be beneficial if possible avenues were pursued that further promote the home environment of children. Such improvements would address issues that make it conducive for parents to participate in their children's lives. These include a comprehensive set of policies such as "literacy policies, providing environments that are conducive to parent-child relations, such as recreational areas or even polices which make it easier for families to spend time together" (Roberts et al. 2001: p. 42). Policies therefore must be in place that address issues of childcare, early child development programs and family support activities (Beiser et al. 2002). According to Willms (2002), "the benefits of good parenting skills, a cohesive family unit, and parents with good mental health far outweigh the negative effects associated with poverty.

8.3.2 Family Transition Impact Parents' and Children's Lives

An important contribution that this research makes is the recognition that parents and children react to different types of family transition. This is crucial when addressing the notion of *linked lives*. That parents' decisions and circumstances do impact children's health and well-being, and that children also influence parents' lives. The interpretation of the findings from this research into concrete policy recommendations pose a challenge as families undergo change and diversify throughout their lifetime. As noted earlier, child development is viewed as a marked change in status – that is as a transitional process (Willms, 2002). Hence, different transitions will place parents and children at risk for adverse or positive health outcomes at different stages in their life cycle. Results from this research highlight the need to address the parents' and the child's state of health during the event of family change. Findings show that parents are at risk for increased levels of depression for both types of change, while child emotional disorder increases only when it involves change from a two-parent to a single-parent family. This is especially so when change occurs between cycle 2 and cycle 3 when children are a little bit older. Hence, program interventions that promote the transitions more manageable including the involvement of both parents in children's lives will help to ameliorate the stresses involved in family change. According to Pryor and Rodgers (2001) families turn to a wide variety of professionals for support including family doctors, teachers, lawyers, counselors and psychologists. They are hence in a position to identify families who are at risk and therefore require help. The challenge is how to provide access to these various resources that can be of immense support to separating families and families in the early phases of stepfamily formation. Stepfamilies for example have not been as visible in the media as single-parent families, and are not regarded as an important topic of debate among policymakers. Stepfamilies should not be regarded as becoming just like any intact families, headed by both biological parents. Indeed, its complexity and variety pose difficulties among policymakers in addressing what appropriate programs are suitable in order to meet the challenges of establishing workable relationships with family members to whom children are not related.

Findings from this study show that parents who remarry also experience an increase in their levels of depression, despite improvements in household income. It is therefore, essential that effective support and intervention are available to parents at risk for vulnerable outcomes that will enable them to stabilize and establish functioning relationships. Schools can also provide avenues of support for children who are experiencing difficulty during the early stages of stepfamily formation (Rogers and Pryor, 2001). Workplaces can also develop policies that recognize the different family structures and hence enable families to combine work and parenting with minimum stress and disruption. These include extended parental leave, sick leaves, and flexible working hours, compressed workweeks and corporate on-site daycare.

Of particular importance is how children should be integrated into the process regarding separation or remarriage and the roles they play in the event of transition. Past research has shown that separation is indeed stressful and a disruptive experience for children when it is unexpected and were not given any indication that their parents were contemplating separation (Neugebauer, 1989). Counseling services and professional advice on how to talk to children about family change would be immensely helpful as parents often find that this is one of the most painful tasks regarding separation or remarriage. For parents and children undergoing the change from a two-parent to a single-parent family, mediation services and parent education classes for divorcing parents are a few examples that will enable families adjust to their new living arrangements (Emery, Kitzman and Waldron, 1999).

Another important issue that needs to be addressed by policymakers concerns the continuing relationship between children and the non-custodial parent. Past research has demonstrated that the active involvement of non-residential parents in children's lives facilitates economic support and generates psychological benefits, one of which also frees up time for the custodial parent. Unless there are reasons such as violence or abuse that will discourage ongoing contact with the non-custodial parent, mediation services can help families in transitions focus on decisions regarding living arrangements. Such services include providing support on how the non-custodial parent can actively be involved in their children's lives including school and community activities, and how to best minimize conflict that may arise from the divorcing families (Emery et al. 2001).

8.4 Methodological Limitations of the Thesis

The research relied primarily on the parent's report and in over 90% of the cases, the report was provided by the mother. Children's perspectives on family transition and even their own health reports were omitted from the analysis. It is a truism that children are profoundly affected by family change, yet rarely are they often the initiators of family change (Pryor and Rodgers, 2001). Indeed, children have their own perceptions of family and family transition and it has been demonstrated that their assessment of change are quite different from parents' own experiences (Mitchell, 1985). The few studies that examined family transition from the child's perspectives demonstrate that children are well-informed of the events around them and most of them do want their voices to be heard (Morrow, 1998; Lyon et al. 1999).

As previously noted, the reliance mainly on the parent's report was to be consistent of the questions asked of parenting styles, family functioning and parental health status.

The direction that this research has taken was to look at all three waves simultaneously so that the application of longitudinal analysis allows for the thorough examination of family change. If the analysis was restricted to the child's report, then one would have had to deal with a very small sample size, given that the self-complete file (the adolescent report) also have greater attrition than the primary file (reports provided by the parent). It would be beneficial as well to compare the parent's report to that of the child's report, but again one would have been restricted only to reports provided by children aged 10 to 11 years old. The analysis was extended longitudinally to wave three, but the children in the sample would have been aged 14 to 15 years old and parents provide only reports up to when children are 11 years old. Children also were not asked of their parents' state of health, so in this regard, one cannot fully capture children's views of how their parents react to family transition.

The reliance mainly on parent's report (usually the mother) resulted in the omission of the father's perception of family transition. The NLSCY only asked one parent, leaving out the spouse living in the household or the non-custodial parent. The question is how paramount is the father-child relationship for children? Studies have shown that for two-parent families, fathers who are highly involved in their children's activities contribute to their children's well-being that range from cognitive outcomes, and internal locus of control (Radin and Sagi, 1992). In the patterns of parenting, it has been shown that fathers' monitoring, support, and nurturance also contribute to positive health outcomes. Correspondingly, parenting styles were asked only of one parent, leaving out the contribution that the other parent (in most cases the father) has towards their child's development. The research could only capture the overall cohesion, including the father's contribution to childrearing indirectly through the measure of the variable, *family functioning*. The variable was composed of questions that included 'how often they did things together as a family', and how well the family functioned as a cohesive unit. It can only be surmised that with higher levels of family functioning, there is a general positive level of communication among family members, including involvement of the father in childrearing activities. For single-parent families, or for those who moved from the single-parent to two-parent families, the points of views of the non-custodial parent virtually become non-existent. The reliance mainly on the custodial parents' report indicate that the PMK's report may present some bias in regards to family relations and even their child's health status. If information were available, then the points of views of both parents, and even stepparents would provide a better understanding of the processes that emerge from family transition.

Finally, the primary focus of the thesis was on family change. Much of the consequences that result from family transition reflect mainly the impact of recent events. At this point, information on whether the detrimental effects felt by parents and children be reduced by the passage of time is unavailable. An attempt to model the impact of change that occurred between cycles one and two reveal that for families that changed household types, the majority of them remained stable between cycles two and three. According to Willms (2002), a problem inherent in longitudinal research is that it takes several years before data becomes available which would allow the full examination of the developmental process for a cohort of individuals. It cannot be determined yet whether change eventually would return to stability or whether early transition is only a part of a series of cumulative transitions that is expected to occur throughout the child's lifecycle.

8.5 Future Research

Understanding the long-term trajectories of children's outcomes and its relation to the individual's characteristics and life transitions pose a challenge to researchers and policymakers. The availability of longitudinal developmental data allows for the investigations for the countless questions that researchers have in terms of child development. The direction that this research has taken views child development as a continuous and transitional process. As children move through their lifecycle, they will encounter experiences that will place them at risk for both negative or positive health outcomes. The key is determining what factors place children in certain stages of their lives at risk for vulnerable outcomes.

One of the questions that arises from the implications surrounding family transition is the importance of the family environment. Bronfenbrenner's (1979) ecological theory of human development stresses the need to consider the multiple contexts that shape children's health and well-being. The past few decades have witnessed a growing interest in the effects of neighbourhoods, in which children live and interact, and the pathways by which neighbourhoods affect the lives of children and youth. An investigation of the intersection of families, schools, peers and neighbourhoods would provide a better understanding on how to create environments that support children's well-being (Aber, Gehpart, Brooks-Gunn, Connell and Spencer, 1997). One can examine the availability or lack of institutional resources such as libraries, playgrounds, child-care arrangements, and preschool programs, enrichment programs in low income versus affluent neighbourhoods and how that in turn foster school readiness. This shifts the focus of identifying family structure merely as a risk factor for adverse child outcomes, and instead examining how important factors such as parenting, the parent's state of health, family cohesiveness are affected by the neighbourhood, schools and the wider community (Willms, 2002).

As mentioned before, past studies have generally found a weak association between income and children's outcomes. This needs to be re-examined given the availability of more waves of data. Previous research could only work with either cross-sectional data or two waves of data at one time, and given the lag effect of income, its long term effect could not be fully captured in the analysis (Beiser et al, 2000; Curtis and Phipps, 2000; Roberts et al. 2001). This research clearly has shown through the analysis of three cycles of data, that income benefits both parents and children in the long run. It also identified that families who underwent change from a single-parent to a two-parent family between cycles one and two and changed back to being single in cycle 3 are at risk for persistent poverty. Subsequent research can examine the changes in poverty (moving from being poor to non-poor; moving from non-poor to poor; not in poverty, and persistent poverty) status across different cycles and compare the changes in parenting behaviours, family function and parental depression. It is also essential that major life transitions such as unemployment, divorce, remarriage, and death in the family be accounted for when ascertaining the impact of poverty status on children's outcomes.

The limitations that emerge from this study also serve as the basis for subsequent research. Studying family transition from the perspectives of other family members, in particular, the child's point of view would shed new understanding on the processes surrounding family change. As children get older, they have a better understanding of the changes that they face, and to some extent even control over the situation. The NLSCY provides a rich source of information to examine adolescents' lives and the various influences on their behaviour. Peers in particular play an important role in adolescent's social and psychological development; therefore, the processes need to be extended beyond the household to include other relations with friends, siblings and teachers. Future research should also examine early childhood behaviour and its impact on subsequent adolescent health outcomes. This entails examining individual health factors such as emotional disorder during childhood and its lingering effects throughout the adolescent years. Among children for example, who were reported to have high levels of emotional disorder during the early years, does this influence adolescent depression and how does this translate to suicidal attempts? Another example would include the impact of aggressive behaviour during childhood and its influence on delinquent activities during their teen years.

The availability of longitudinal data allows one to explore parent-child relations into adulthood. As noted earlier, children do not live in isolation from their parents. According to Amato and Booth (1997), parents also influence children's personalities, social skills and lifestyle. Interpersonal outcomes such as marital quality, divorce, and parent-child relationships are to a certain extent transmitted across generation. A series of family transitions during childhood will affect their decisions later on concerning life events such as home leaving, school completion, union formations and dissolutions. The fifth cycle of the NLSCY (2002-2003) will provide data on children who were 10-11 years old in cycle 1 and who will be 18 to 19 years old by the fifth wave. Future research can examine the impact of major life events during childhood such as parental divorce, remarriage, spells of parents', unemployment, residential mobilities and how that in turn affect their educational and labour market outcomes, union formations, and their social and emotional development during young adulthood.

Finally, a crucial issue to be explored concerns the time dimension. It is important to examine whether family change during childhood represents a series of cumulative transitions that the child is expected to experience throughout his or her lifetime. If so, then there is a need to re-conceptualize the impact of major life events in children's lives, that divorce or even remarriage for example is not a one-time event that leads to detrimental outcomes. That other processes leading to the event must also be accounted for when ascertaining the consequences of family transition.

ENDNOTES

1. Statistics Canada's terminology is different from the one used in this thesis. It is labeled as 'property offences'. Given that property offences is widely known as crime against property it was decided that a different term be used for this thesis. This variable was based on a factor score that ranged from 0 –12 with a high score indicating behaviours associated with stealing, vandalizing, etc. But because of the skewed distribution (see descriptive results) it was decided that logistic regression rather than OLS would serve as the better method for estimation. The Cronbach's Alpha value for the factor score was .637.

2. While past studies have provided valuable information on the environmental factors associated with children's health and well-being, they rely mainly on cross-sectional data, providing only a "snapshot" of current family living arrangements.

3. There are three models that serve as sources of external influence to the family: The mesosystem model posits that the family is the primary setting in which child development takes place. It also includes linkage to the school, the community groups, sports and health professionals. The exosystem model involves the setting in which the child may not have direct access to but still has an impact on the child. This is discussed with social capital in the next section. The chronosystem model utilizes the passage of time as a frame of reference for components of Elder's life course framework – the timing and sequencing of events.

4. In this thesis, I use household income as a measure of financial capital. Parental education and the number of hours and status of job as the measure of human capital. Parenting styles, family functioning and number of siblings are used as measures of social capital.

5. Reciprocal relationships are examined via structural equation modeling in Chapter 6. Also in that chapter, issues pertaining to longitudinal analysis are discussed more in detail in the same chapter.

6. Note this general theoretical framework is tested empirically on Chapter 5. This framework however does not include the possibility of reciprocal relationships, interaction effects and stability of the variables of interest. The model therefore specifies only recursive relations. It would have been too cumbersome to include them as well in this conceptual model. The purpose of this model is to discuss

the covariation between the mediating processes and family structure and economic resources. There is a revised conceptual model that is discussed more in detail in Chapter 6, accounting for issues arising out of longitudinal analysis. For example, the structural equation modeling employs a stack model i.e. two-parent and single-parent groups and examines how household income, parental depression and child emotional disorder influence each other simultaneously. The revised model will take the variables from Chapter 5 and explore further via structural equation modeling as the analysis is extended across all three waves.

7. Developmental psychologists term the middle years 6-9 years old. This sample however will also include children who are 4-5 years old and those who are just approaching their pre-adolescent years, children who are 10-11 years. The majority of the children in this sample are those who are 6, 7, 8, and 9 years old, children considered in their middle years.

8. We cannot test for this directly in Chapter 5 but in Chapter 6 we examine how economic resources as represented by household income affects one of the mediating processes, parental depression and its subsequent impact on child emotional disorder. In Chapter 5 we only examine for how much economic resources and family processes mediate the family structure effects on children's health outcomes.

9. Another example is on the role of family dysfunctioning. We surmise that higher levels of family dysfunctioning mediate the family structure effects on children's outcomes. At the same time however, lower levels of family dysfunctioning also translate to greater family cohesion and high levels of communication among family members. Families who feel they can turn to each other for support will be able to buffer the stress that stems from family transition. Research surrounding social support and family change consistently finds that single-parents have lower levels of social support than two-parent families (Gerstel et al. 1985). Hence, higher levels of family functioning (as measured by low dysfunctioning) translate to better family cohesion, which can then buffer the stress associated with family change.

10. To be demonstrated in Chapter 5, family change that occurred between cycle 1 (1994 to 1995) and 2 (1996 to 1997) dictates that children would be 4-7 years old at the first wave and then will be 6 to 9 in the second wave. Similarly, children who are 6-9 years old at the second wave (1996 to 1997) will be followed through in wave three when they are 8 to 11 years old (1998 to 1999).

11. It cannot be determined in this thesis whether these individuals who experienced family transition will also experience subsequent transitions. The study focuses only on the three waves and we do not yet have information on later transitions.

12. Children are followed up until they are 25 years old. The study was developed to provide a national database intended to provide a human-development view of the early decades of life. The Applied Research Branch of Human Resources Development Canada funds the NLSCY in partnership with Statistics Canada.

13. Originally in cycle 1, some households contained up to 4 children in the sample but this was reduced to a maximum of 2 children in the original longitudinal cohort by cycle 2.

14. On top of these longitudinal children, new children were introduced in subsequent cycles (cycle 2 and after) to meet the needs of the new program called "Understanding the Early Years." Although these children are important for the survey, they are not part of the analysis since the research focuses on children introduced in cycle 1.

15. The following is a breakdown of the relationship of the PMK to the NLSCY children for cycle 3: 92.1% was the biological mother; .9% was the stepmother and 6.4% was the biological father.

16. Michaud (2001 p. 405) notes the following: Cluster sampling for the LFS includes for example the process of sampling city blocks. But only certain city blocks are chosen to be part of the sample; dwellings are selected from within those blocks.

17. The NLSCY parent questionnaire was for children aged newborn to 11 years old. The self-complete questionnaire was targeted for children aged 10 years and over.

18. The sample size varies by health outcomes and by period of the study. For example, the valid cases for physical aggression outcomes were 4041, but by the 2nd and 3rd wave analysis, this drops off to 3806 due to attrition.

19. A standardized longitudinal weight was calculated as: the mean of the longitudinal weight for the overall sample was first obtained, and then divided into the mean of the longitudinal weight of the analytic sample.

20. A more comprehensive analysis is undertaken in Chapter 6, using structural equation modeling. In this chapter, we take full advantage of analyzing family change by incorporated all three measures of the chosen variables. A detailed analysis on the conceptualization of family change variables will be provided in that chapter.

21. For biological mothers the total sample size is as follows: Cycle 1 – 629; Cycle 2 – 629; Cycle 3 – 647; for biological fathers, the total sample size is as follows: Cycle 1 – 35; Cycle 2 – 62; Cycle 3 – 81.

22. The NLSCY data user guide defines a step family as: A step family consists of a married or common-law couple residing in the same household, with at least one step child living with them who is the biological or adopted child of one parent but not the other. A child who is the biological child of both parents is said to belong to a stepfamily if at least one of those parents has a stepchild also residing in the household. A blended family is a sub-set of a stepfamily. A blended family consists of a married or common-law couple living with at least two children, one of whom does not share the same natural and/or adoptive parents as the other children. For example, a blended family may consist of a couple with biological children of the female partner as well as biological children of the male partner (i.e. hers and his)/ Because of the small sample size, (only 6.2% for the entire NLSCY are members of a blended family) it was decided to include it in the same category as the step-family.

23. The change from stepparent to single parent was estimated only between the second and the third waves due to the small sample size between the first and the second wave estimation.

24. Statistics Canada conducted all the factor analysis for the independent variables and the dependent variables.

25. The other factors that were identified were indirect aggression and prosocial behaviour, but after preliminary analyses, as to which best fits the modeling, it was decided that these two factors would be dropped from the analysis.

26. Given that the hours worked ranges from 0 – did not work to 6 – worked 50 hours and more, some of the cells for the family structure categories contained too few cases to be reported.

27. The original scale developed by L.S. Radloff of the Epidemiological Study Centre of the National Institute of Mental Health in the United States consisted of 20 items intended to measure the frequency of symptoms in the public at large. The scale was reduced to 12 questions by Dr. M. Boyle of the Chedoke-McMaster Hospital of McMaster University. In analyzing the scale, weighted data could not be used since the weights developed for the survey are for children only, and not the parents. For cycle 1 a total of 13,140 PMK's responded, with a non-response rate of 2.2%.

28. There were also other parenting styles such as positive interaction and consistent parenting and rational parenting. Previous studies have demonstrated that ineffective interactions had the strongest correlation with children's developmental behaviours and so it was decided that hostile ineffective parenting was chosen as one of the family process variables.

29. There were originally 18 items included in the analysis. Two sub-samples of 9090 and 9045 were created for analysis purposes of children aged 2 to 11. The non-response per item ranged from 2.1% to 2.7% for the 18 items. Three factors were identified for the following parenting practices: Positive Interaction which included the items: How often does the respondent praise the child by saying something like "Good for you!; How often the respondent plays or talk with the child, focussing attention on each other for five or more minutes just for fun; How often the respondent and the child laugh together; How often the respondent does something special with the child that she/he enjoys. How often the respondent plays sports, hobbies, and games with the child. The cronbach's alpha for the positive interaction scale was .727. Consistent parenting on the other hand included the items: When the parent gives the child a command to do something, what proportion of the time does he/she make sure the child does it; If the respondent tells the child he/she will be punished if they do not stop doing something, and keeps on doing it, how often will the parent punish the child; how often does the child get away with things that the respondent feels he/she should have been punished; how often does the child able to get out of a punishment when he/she really sets his/her mind to it; how often when the parent disciplines the child does he/she ignore the punishment. The cronbach's alpha for the consistent parenting scale was .656. Preliminary analysis was conducted to see which of the parenting scale provided an adequate fit of the models and it was determined that ineffective parenting provided the best fit for the following models in Chapters 5, 6, and 7.

30. Similarly, stable stepparents from 1994 to 1996 and who dissolved their union between 1996 and 1998 did not demonstrate any detrimental effects on children's outcomes.

31. For the bottom notes on reference categories, etc. refer to the notes on tables 5.1 and 5.2. They would not fit in these two tables for injuries and property offences.

32. A separate analysis is required for the group that experienced change between waves one and two, to be demonstrated in Chapter 7. Between 1994 and 1996, 184 changed to a single-parent family. From these 184 families, an additional 40 families changed into two-parent families between 1996 and 1998. A total of 148 families changed to a two-parent family between cycle 1 and cycle 2; of these, 44 changed back to a single-parent family between waves two and three.

33. Model fit is usually estimated with the assessment of χ^2 and the degrees of freedom. Smaller χ^2 values are evidence of a good fitting model along with an insignificant χ^2 because the model's predicted **E** is close to the observed variance covariance **S** for the remaining differences to be mere sampling fluctuations. But with large sample sizes, we are more likely to estimate a significant χ^2, not because the fit between our observed variance covariance matrix **S** and our model implied variance covariance matrix **E** is worse but according to Hayduk (1987), " with large sample sizes, smaller differences are detectable as being more than mere sample fluctuations (p. 168). Hayduk (1987) suggests that χ^2 would be more instructive for sample sizes ranging from 50 to 500. In this case, our sample size well exceeds 500; therefore, other modes of assessment such as the RMSEA would be more appropriate.

34. The RMSEA is less strict than the chi-square and takes into account both sampling error and model error. A model has a close fit when the RMSEA is less than .05, and a fair fit when the model is in the interval of .05 to .08 and a poor fit between .08 and .10.

35. Previous models were also estimated which initially included the hostile ineffective parenting behaviour. This did not have a significant effect and resulted in a poor-fitting model. The change effect could not be fully captured from this variable. It should be noted however, that hostile ineffective parenting was highly stable across three waves, such that parents who demonstrated negative interactions towards their children also exhibited the same parenting styles regardless of family change. Despite its non-significant effect however, we could have included this variable in the model, but its addition only would have increased its variance covariance matrix exponentially, particularly if we account for its measure across all three periods. The intent is to arrive at a parsimonious adequate fitting model. Out of the family process variables, parental depression appeared to be the main variable that showed change across the three waves.

36. The model was previously estimated as a stacked model like the previous one, where the causal mechanisms were analyzed separately for the two-parent and single-parent families. As mentioned already, the sample size was too small to begin with and it would have entailed analyzing only 184 families that changed from two-parent to single-parents and 148 families that changed from single-parent to two-parent families. Furthermore, we would not have obtained the effects of the CG2 or the single status variable at time 2, given that the covariances would have been zero. The model did not fit adequately and mostly obtained non-significant results due to the small sample size. Another model was estimated in which equality constraints were placed. That is, we started off with a model and made all the coefficients to be the same as the single-parent model (see Table 6.3) and revised accordingly by freeing the coefficients based on the modification indices. The problems with this analytical approach is that it assumes that children undergoing family transition at a certain stage (for example pre-adolescence) will suffer the same problems as children at a different age (i.e. preschoolers). The last model in Chapter 6 analyzed change at wave three, which would have included children who were already in their pre-adolescent years as well as children in their middle years. The model to be analyzed in this chapter will focus on children who will undergo transition at much younger ages (4-7 years old) In this regard, we cannot assume that the detrimental effects suffered by children at these ages will be the same as children who experience family change at much younger ages (4-7 years old). The family history for example for those who have changed between waves two and three would be different than those who changed between waves one and two. This model however was analyzed and did not fit adequately. The root mean square error of approximation was .07.

37. A coefficient of –.40 is interpreted as follows: Take the inverse ln of -.40 gives a value of .67. Therefore, a drop in household income is interpreted as: 1 - .67 = 33%.

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